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FINAL SURVEYS.....SEC.1

DAILY ACTIVITY.....SEC.2

BHA REPORTS..... SEC.3

MOTOR REPORTS.....SEC.4

SLIDE REPORTSEC.5

Drilling Services-Denver, CO



FINAL SURVEYS

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CAMP 37-31HZ PAD

Camp 24C-30HZ

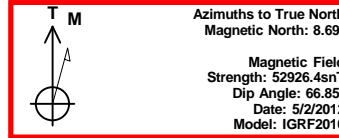
Camp 24C-30HZ

Design: Camp 24C-30HZ

Standard Survey Report

19 July, 2012

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_CAMP 37-31HZ PAD
Well: Camp 24C-30HZ
Wellbore: Camp 24C-30HZ
Section:
SHL:
Design: Camp 24C-30HZ (wp03)
Latitude: 40.175916
Longitude: -104.701506
GL: 4949.00
KB: 25' RKB + 4949' GL @ 4974.00ft



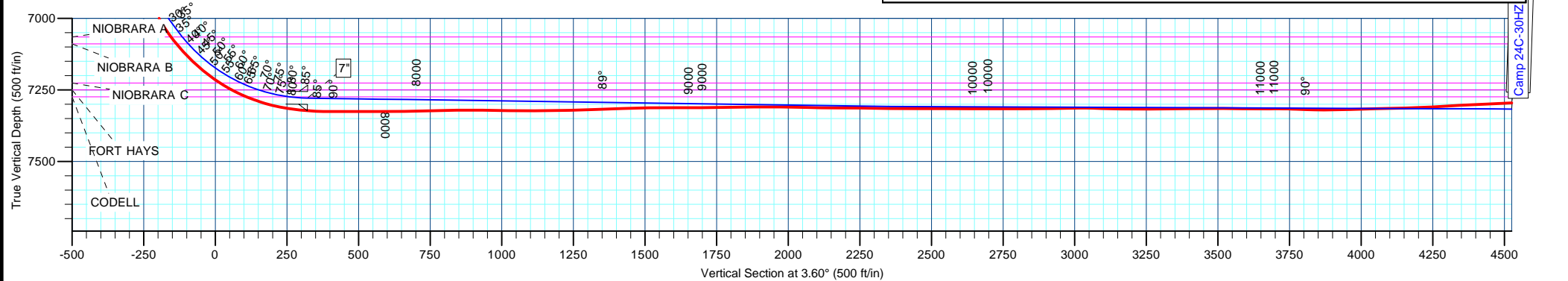
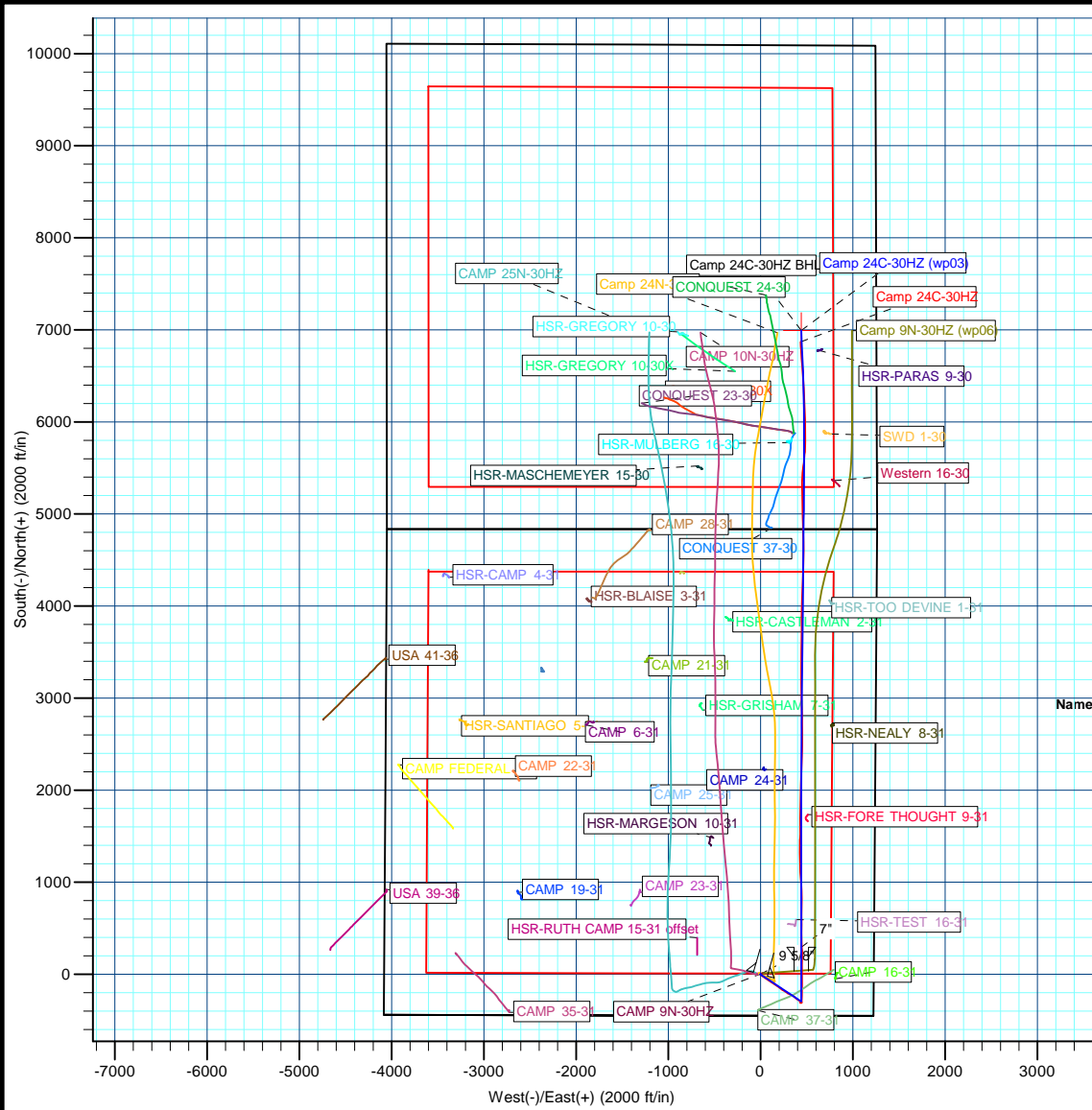
WELL DETAILS: Camp 24C-30HZ						
+N/-S	+E/-W	Northing	Ground Level	Easting	Latitude	Longitude
0.00	0.00	1307933.64	3223120.90	4949.00	40.175916	-104.701506

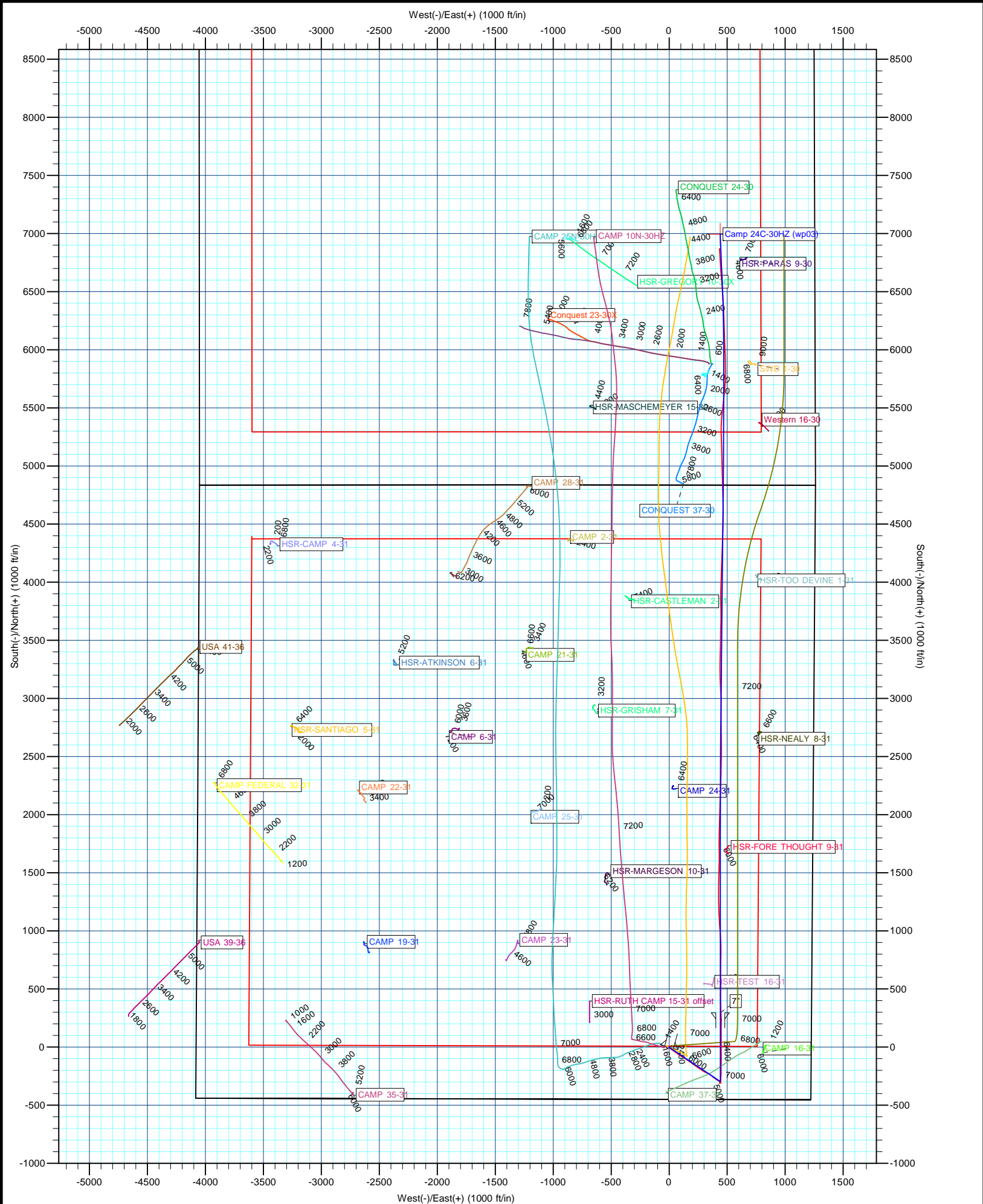
CASING DETAILS			
TVD	MD	Name	Size
800.00	800.00	9 5/8"	9-5/8
7279.00	7652.00	7"	7"

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3942.00	3984.59	PARKMAN
4340.00	4385.49	SUSSEX
6994.00	7059.77	SHARON SPRINGS
7065.00	7148.20	NIORARA A
7089.00	7179.70	NIORARA B
7226.00	7411.83	NIORARA C
7250.00	7477.09	FORT HAYS
7274.00	7584.16	CODELL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Camp 24C-30HZ BHL	7320.00	6993.53	440.26	40.195114	-104.699930	Point
SWD 1-30 BHL	9690.92	5871.01	765.57	40.192032	-104.698766	Rectangle (Sides: L1000.00 W1000.00)

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	
792.00	0.23	195.46	792.00	-0.29	-0.94	0.00	0.00	-0.34	
1050.00	0.00	0.00	1050.00	-0.78	-1.08	0.09	180.00	-0.85	
1570.41	10.41	123.71	1567.55	-26.94	38.14	2.00	123.71	-24.49	
3990.13	10.41	123.71	3947.45	-269.54	401.79	0.00	0.00	-243.76	
4510.53	0.00	0.00	4465.00	-295.70	441.00	2.00	180.00	-267.41	
5160.53	0.00	0.00	5115.00	-295.70	441.00	0.00	0.00	-267.41	
6716.13	0.00	0.00	6670.60	-295.70	441.00	0.00	0.00	-267.41	
7059.77	34.36	0.00	6994.00	-195.70	441.00	10.00	0.00	-167.61	
7148.20	38.78	0.00	7065.00	-143.03	441.00	5.00	0.00	-115.04	
7652.13	89.18	0.00	7279.00	295.38	441.00	10.00	0.00	322.50	
9652.13	89.18	0.00	7307.69	2295.17	441.00	0.00	0.00	2318.35	
9693.18	89.76	0.58	7308.07	2336.22	441.21	2.00	44.87	2359.32	
12525.78	89.76	0.58	7319.93	5168.65	469.84	0.00	0.00	5187.96	
12557.13	90.00	0.00	7320.00	5200.00	470.00	2.00	-67.49	5219.26	
13557.13	90.00	0.00	7320.00	6200.00	470.00	0.00	0.00	6217.28	
13672.88	90.00	357.68	7320.00	6315.72	467.66	2.00	-90.00	6332.63	
14351.25	90.00	357.68	7320.00	6993.53	440.26	0.00	0.00	7007.38	





Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_CAMP 37-31HZ PAD			
Site Position:		Northing:	1,307,943.36 usft	Latitude:	40.175944
From:	Lat/Long	Easting:	3,223,064.93 usft	Longitude:	-104.701706
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52 °

Well	Camp 24C-30HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,933.64 usft	Latitude:	40.175916
	+E/-W	0.00 ft	Easting:	3,223,120.90 usft	Longitude:	-104.701506
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,949.00 ft

Wellbore	Camp 24C-30HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2012	8.69	66.85	52,926

Design	Camp 24C-30HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	3.62	

Survey Program	Date	7/19/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	792.00	Survey #1 (Camp 24C-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
985.00	14,281.00	Survey #2 (Camp 24C-30HZ)	MWD	MWD - STANDARD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.19	292.17	100.00	0.06	-0.15	0.05	0.19	0.19	0.00	
200.00	0.22	186.37	200.00	-0.07	-0.33	-0.09	0.33	0.03	-105.80	
300.00	0.22	164.46	300.00	-0.44	-0.30	-0.46	0.08	0.00	-21.91	
400.00	0.08	52.65	400.00	-0.58	-0.19	-0.59	0.26	-0.14	-111.81	
500.00	0.29	347.17	500.00	-0.29	-0.19	-0.31	0.27	0.21	-65.48	
600.00	0.06	291.86	600.00	-0.03	-0.30	-0.05	0.26	-0.23	-55.31	
700.00	0.33	259.78	700.00	-0.06	-0.63	-0.10	0.28	0.27	-32.08	
792.00	0.23	195.46	792.00	-0.29	-0.94	-0.34	0.34	-0.11	-69.91	
tie on to gyros										

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
985.00	0.14	264.77	985.00	-0.68	-1.28	-0.76	0.12	-0.05	35.91
1,081.00	1.54	152.17	1,080.98	-1.83	-0.79	-1.88	1.67	1.46	-117.29
1,175.00	3.99	135.87	1,174.87	-5.30	2.08	-5.16	2.71	2.61	-17.34
1,270.00	6.50	127.72	1,269.46	-10.96	8.63	-10.39	2.75	2.64	-8.58
1,365.00	8.51	125.39	1,363.65	-18.32	18.62	-17.11	2.14	2.12	-2.45
1,460.00	10.48	123.34	1,457.34	-27.14	31.57	-25.09	2.10	2.07	-2.16
1,502.00	10.51	124.65	1,498.64	-31.42	37.91	-28.96	0.57	0.07	3.12
1,597.00	10.62	126.59	1,592.03	-41.56	52.06	-38.19	0.39	0.12	2.04
1,692.00	10.61	127.90	1,685.40	-52.15	65.99	-47.88	0.25	-0.01	1.38
1,787.00	10.89	123.90	1,778.74	-62.53	80.34	-57.33	0.84	0.29	-4.21
1,882.00	10.04	123.02	1,872.15	-72.05	94.74	-65.93	0.91	-0.89	-0.93
1,976.00	9.25	121.66	1,964.83	-80.48	108.04	-73.50	0.87	-0.84	-1.45
2,071.00	9.02	121.17	2,058.62	-88.34	120.91	-80.53	0.26	-0.24	-0.52
2,166.00	7.66	121.54	2,152.61	-95.51	132.68	-86.94	1.43	-1.43	0.39
2,261.00	8.77	126.96	2,246.64	-103.18	143.86	-93.89	1.42	1.17	5.71
2,356.00	9.44	122.82	2,340.44	-111.75	156.20	-101.67	0.99	0.71	-4.36
2,451.00	9.46	124.44	2,434.15	-120.39	169.18	-109.47	0.28	0.02	1.71
2,546.00	9.06	122.23	2,527.92	-128.79	181.95	-117.05	0.56	-0.42	-2.33
2,641.00	9.39	121.96	2,621.69	-136.89	194.85	-124.31	0.35	0.35	-0.28
2,736.00	10.56	129.87	2,715.25	-146.57	208.11	-133.14	1.89	1.23	8.33
2,830.00	12.46	129.96	2,807.36	-158.60	222.49	-144.24	2.02	2.02	0.10
2,925.00	13.07	119.86	2,900.02	-170.54	239.67	-155.07	2.43	0.64	-10.63
3,020.00	11.85	121.07	2,992.78	-180.92	257.34	-164.31	1.31	-1.28	1.27
3,115.00	11.08	123.63	3,085.89	-191.01	273.29	-173.38	0.97	-0.81	2.69
3,210.00	9.76	129.78	3,179.32	-201.22	287.08	-182.69	1.82	-1.39	6.47
3,305.00	9.47	116.15	3,273.00	-209.82	300.29	-190.44	2.41	-0.31	-14.35
3,400.00	6.68	117.46	3,367.05	-215.81	312.21	-195.67	2.94	-2.94	1.38
3,495.00	6.35	116.19	3,461.43	-220.68	321.83	-199.92	0.38	-0.35	-1.34
3,589.00	9.12	116.48	3,554.57	-226.29	333.16	-204.81	2.95	2.95	0.31
3,684.00	8.68	113.64	3,648.43	-232.52	346.47	-210.19	0.65	-0.46	-2.99
3,779.00	7.67	127.67	3,742.47	-239.27	358.05	-216.19	2.35	-1.06	14.77
3,874.00	8.54	133.32	3,836.52	-247.99	368.20	-224.25	1.24	0.92	5.95
3,969.00	10.35	127.49	3,930.23	-258.02	380.11	-233.51	2.15	1.91	-6.14
4,064.00	11.38	125.52	4,023.53	-268.66	394.51	-243.22	1.15	1.08	-2.07
4,159.00	10.93	123.70	4,116.73	-279.10	409.63	-252.69	0.60	-0.47	-1.92
4,253.00	8.43	122.79	4,209.39	-287.78	422.84	-260.52	2.66	-2.66	-0.97
4,349.00	4.74	118.76	4,304.74	-293.50	432.23	-265.63	3.87	-3.84	-4.20
4,443.00	2.45	139.33	4,398.55	-296.90	436.95	-268.72	2.76	-2.44	21.88
4,538.00	1.44	137.85	4,493.49	-299.32	439.07	-271.01	1.06	-1.06	-1.56
4,633.00	1.03	167.84	4,588.47	-301.04	440.05	-272.66	0.79	-0.43	31.57
4,728.00	0.91	170.56	4,683.46	-302.62	440.36	-274.22	0.14	-0.13	2.86
4,823.00	1.36	216.07	4,778.44	-304.28	439.82	-275.90	1.02	0.47	47.91
4,918.00	2.64	224.25	4,873.38	-306.75	437.63	-278.52	1.38	1.35	8.61

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,014.00	1.33	249.65	4,969.32	-308.72	435.04	-280.65	1.61	-1.36	26.46
5,109.00	0.14	281.99	5,064.31	-309.08	433.89	-281.08	1.28	-1.25	34.04
5,204.00	0.56	32.02	5,159.31	-308.67	434.02	-280.65	0.65	0.44	115.82
5,298.00	0.70	48.92	5,253.31	-307.90	434.70	-279.84	0.25	0.15	17.98
5,392.00	1.09	53.87	5,347.30	-307.00	435.86	-278.87	0.42	0.41	5.27
5,487.00	1.09	49.40	5,442.28	-305.87	437.27	-277.66	0.09	0.00	-4.71
5,582.00	1.04	50.80	5,537.26	-304.74	438.63	-276.44	0.06	-0.05	1.47
5,677.00	0.78	63.03	5,632.25	-303.90	439.87	-275.53	0.34	-0.27	12.87
5,771.00	0.82	67.22	5,726.24	-303.35	441.06	-274.91	0.08	0.04	4.46
5,866.00	0.56	82.27	5,821.23	-303.03	442.15	-274.51	0.33	-0.27	15.84
5,961.00	0.69	149.82	5,916.23	-303.46	442.90	-274.90	0.74	0.14	71.11
6,056.00	0.20	275.85	6,011.23	-303.94	443.02	-275.36	0.87	-0.52	132.66
6,151.00	0.44	63.82	6,106.23	-303.76	443.18	-275.18	0.65	0.25	155.76
6,246.00	0.53	92.03	6,201.22	-303.61	443.95	-274.98	0.27	0.09	29.69
6,340.00	0.44	148.84	6,295.22	-303.94	444.57	-275.27	0.50	-0.10	60.44
6,435.00	0.58	153.71	6,390.22	-304.68	444.97	-275.98	0.15	0.15	5.13
6,530.00	1.00	178.22	6,485.21	-305.94	445.21	-277.23	0.56	0.44	25.80
6,624.00	0.97	183.83	6,579.19	-307.55	445.18	-278.84	0.11	-0.03	5.97
6,656.00	1.25	190.93	6,611.19	-308.17	445.10	-279.46	0.97	0.88	22.19
6,688.00	1.19	186.20	6,643.18	-308.84	444.99	-280.13	0.37	-0.19	-14.78
6,719.00	0.49	316.08	6,674.18	-309.06	444.87	-280.37	5.00	-2.26	418.97
6,751.00	4.35	356.58	6,706.15	-307.75	444.70	-279.07	12.47	12.06	126.56
6,783.00	7.79	0.30	6,737.96	-304.37	444.64	-275.70	10.81	10.75	11.63
6,815.00	9.09	0.73	6,769.61	-299.68	444.68	-271.01	4.07	4.06	1.34
6,846.00	9.40	358.06	6,800.21	-294.70	444.63	-266.04	1.71	1.00	-8.61
6,878.00	12.64	359.56	6,831.62	-288.58	444.51	-259.95	10.16	10.13	4.69
6,909.00	15.71	0.78	6,861.67	-280.99	444.54	-252.37	9.95	9.90	3.94
6,941.00	18.44	2.67	6,892.26	-271.60	444.84	-242.98	8.70	8.53	5.91
6,972.00	21.00	5.38	6,921.44	-261.17	445.59	-232.53	8.77	8.26	8.74
7,004.00	23.62	5.07	6,951.04	-249.08	446.69	-220.38	8.20	8.19	-0.97
7,036.00	26.52	4.25	6,980.02	-235.57	447.79	-206.83	9.13	9.06	-2.56
7,067.00	29.72	2.95	7,007.36	-220.99	448.70	-192.22	10.51	10.32	-4.19
7,099.00	32.97	0.62	7,034.69	-204.35	449.20	-175.59	10.84	10.16	-7.28
7,130.00	36.47	359.93	7,060.16	-186.70	449.28	-157.96	11.36	11.29	-2.23
7,162.00	39.15	0.02	7,085.44	-167.08	449.27	-138.39	8.38	8.38	0.28
7,194.00	41.35	0.94	7,109.86	-146.41	449.45	-117.75	7.12	6.88	2.88
7,225.00	44.51	0.91	7,132.56	-125.30	449.79	-96.66	10.19	10.19	-0.10
7,257.00	46.76	359.90	7,154.93	-102.43	449.95	-73.82	7.38	7.03	-3.16
7,288.00	49.27	358.79	7,175.67	-79.39	449.68	-50.84	8.52	8.10	-3.58
7,320.00	52.83	357.83	7,195.78	-54.52	448.94	-26.07	11.37	11.13	-3.00
7,352.00	55.40	358.71	7,214.54	-28.60	448.16	-0.26	8.33	8.03	2.75
7,383.00	57.74	358.57	7,231.61	-2.74	447.55	25.51	7.56	7.55	-0.45
7,415.00	61.32	359.44	7,247.84	24.83	447.07	53.00	11.43	11.19	2.72

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Survey Report

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Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,446.00	65.47	0.51	7,261.72	52.54	447.06	80.66	13.74	13.39	3.45
7,478.00	68.07	0.97	7,274.34	81.94	447.45	110.02	8.23	8.13	1.44
7,509.00	69.19	1.22	7,285.64	110.80	448.00	138.86	3.69	3.61	0.81
7,541.00	72.83	1.80	7,296.05	141.05	448.80	169.10	11.50	11.38	1.81
7,573.00	76.23	2.49	7,304.58	171.86	449.95	199.92	10.83	10.63	2.16
7,604.00	79.94	0.75	7,310.98	202.17	450.81	230.23	13.17	11.97	-5.61
7,636.00	81.93	358.03	7,316.02	233.77	450.47	261.74	10.45	6.22	-8.50
7,668.00	83.35	356.15	7,320.12	265.46	448.86	293.27	7.32	4.44	-5.88
7,689.00	84.46	355.87	7,322.35	286.29	447.40	313.96	5.45	5.29	-1.33
7,742.64	88.48	358.07	7,325.66	339.74	444.57	367.13	8.53	7.49	4.10
7"									
7,763.00	90.00	358.90	7,325.93	360.09	444.04	387.40	8.53	7.49	4.08
7,854.00	90.12	0.96	7,325.83	451.09	443.93	478.21	2.27	0.13	2.26
7,946.00	89.91	359.32	7,325.81	543.08	444.15	570.04	1.80	-0.23	-1.78
8,037.00	90.68	0.22	7,325.34	634.08	443.78	660.83	1.30	0.85	0.99
8,129.00	91.67	1.08	7,323.45	726.05	444.83	752.68	1.43	1.08	0.93
8,220.00	91.32	0.73	7,321.08	817.01	446.26	843.55	0.54	-0.38	-0.38
8,310.00	88.64	357.73	7,321.11	906.98	445.06	933.27	4.47	-2.98	-3.33
8,401.00	89.26	355.80	7,322.78	997.82	439.92	1,023.60	2.23	0.68	-2.12
8,493.00	90.00	355.64	7,323.37	1,089.56	433.06	1,114.72	0.82	0.80	-0.17
8,616.00	91.29	358.51	7,321.99	1,212.37	426.78	1,236.90	2.56	1.05	2.33
8,708.00	92.65	0.62	7,318.83	1,304.31	426.08	1,328.61	2.73	1.48	2.29
8,800.00	92.04	0.20	7,315.06	1,396.23	426.74	1,420.38	0.80	-0.66	-0.46
8,893.00	91.11	2.54	7,312.50	1,489.16	428.96	1,513.27	2.71	-1.00	2.52
8,985.00	89.29	0.20	7,312.18	1,581.12	431.16	1,605.19	3.22	-1.98	-2.54
9,077.00	90.37	0.14	7,312.46	1,673.12	431.43	1,697.02	1.18	1.17	-0.07
9,169.00	91.06	359.32	7,311.31	1,765.11	431.00	1,788.80	1.16	0.75	-0.89
9,261.00	90.86	2.40	7,309.77	1,857.08	432.38	1,880.67	3.35	-0.22	3.35
9,353.00	89.01	1.33	7,309.87	1,949.02	435.37	1,972.62	2.32	-2.01	-1.16
9,448.00	88.52	1.64	7,311.92	2,043.97	437.84	2,067.53	0.61	-0.52	0.33
9,543.00	89.81	2.06	7,313.30	2,138.91	440.90	2,162.47	1.43	1.36	0.44
9,637.00	89.51	1.62	7,313.86	2,232.86	443.92	2,256.43	0.57	-0.32	-0.47
9,733.00	88.94	1.61	7,315.16	2,328.81	446.63	2,352.36	0.59	-0.59	-0.01
9,828.00	90.37	0.96	7,315.73	2,423.78	448.76	2,447.27	1.65	1.51	-0.68
9,922.00	89.44	0.89	7,315.89	2,517.77	450.27	2,541.17	0.99	-0.99	-0.07
10,017.00	89.91	359.67	7,316.43	2,612.76	450.74	2,636.01	1.38	0.49	-1.28
10,113.00	90.37	359.19	7,316.19	2,708.76	449.78	2,731.75	0.69	0.48	-0.50
10,208.00	89.45	358.76	7,316.34	2,803.74	448.08	2,826.43	1.07	-0.97	-0.45
10,303.00	91.85	1.08	7,315.26	2,898.72	447.95	2,921.22	3.51	2.53	2.44
10,398.00	89.88	358.71	7,313.83	2,993.70	447.78	3,015.99	3.24	-2.07	-2.49
10,493.00	88.03	356.16	7,315.56	3,088.58	443.53	3,110.41	3.32	-1.95	-2.68
10,588.00	89.81	358.97	7,317.35	3,183.46	439.49	3,204.85	3.50	1.87	2.96
10,684.00	90.88	0.02	7,316.77	3,279.45	438.65	3,300.60	1.56	1.11	1.09
10,779.00	90.49	1.74	7,315.64	3,374.43	440.11	3,395.48	1.86	-0.41	1.81

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,874.00	89.88	1.40	7,315.33	3,469.39	442.71	3,490.42	0.74	-0.64	-0.36
10,969.00	88.83	0.62	7,316.40	3,564.37	444.38	3,585.31	1.38	-1.11	-0.82
11,064.00	90.86	1.95	7,316.66	3,659.34	446.51	3,680.23	2.55	2.14	1.40
11,160.00	87.60	357.94	7,317.95	3,755.30	446.42	3,775.99	5.38	-3.40	-4.18
11,255.00	89.81	359.60	7,320.10	3,850.24	444.38	3,870.62	2.91	2.33	1.75
11,349.00	91.85	2.53	7,318.73	3,944.20	446.13	3,964.50	3.80	2.17	3.12
11,444.00	91.54	2.05	7,315.92	4,039.08	449.92	4,059.43	0.60	-0.33	-0.51
11,539.00	91.23	0.90	7,313.63	4,134.02	452.37	4,154.33	1.25	-0.33	-1.21
11,634.00	93.45	2.57	7,309.75	4,228.89	455.24	4,249.19	2.92	2.34	1.76
11,729.00	93.03	2.35	7,304.38	4,323.65	459.31	4,344.02	0.50	-0.44	-0.23
11,823.00	92.90	2.06	7,299.52	4,417.46	462.92	4,437.87	0.34	-0.14	-0.31
11,918.00	91.54	1.49	7,295.84	4,512.34	465.86	4,532.74	1.55	-1.43	-0.60
12,013.00	87.53	358.77	7,296.61	4,607.30	466.08	4,627.54	5.10	-4.22	-2.86
12,108.00	86.97	358.75	7,301.17	4,702.17	464.03	4,722.09	0.59	-0.59	-0.02
12,204.00	88.03	358.54	7,305.35	4,798.05	461.76	4,817.63	1.13	1.10	-0.22
12,298.00	90.68	358.48	7,306.41	4,892.01	459.32	4,911.24	2.82	2.82	-0.06
12,393.00	91.06	358.26	7,304.97	4,986.96	456.61	5,005.83	0.46	0.40	-0.23
12,487.00	90.25	359.28	7,303.89	5,080.93	454.60	5,099.49	1.39	-0.86	1.09
12,582.00	90.19	358.03	7,303.53	5,175.90	452.37	5,194.13	1.32	-0.06	-1.32
12,677.00	91.85	358.23	7,301.84	5,270.83	449.27	5,288.68	1.76	1.75	0.21
12,772.00	92.65	2.83	7,298.11	5,365.73	450.14	5,383.44	4.91	0.84	4.84
12,867.00	91.54	6.42	7,294.63	5,460.34	457.80	5,478.34	3.95	-1.17	3.78
12,962.00	91.11	6.21	7,292.44	5,554.73	468.24	5,573.21	0.50	-0.45	-0.22
13,057.00	89.51	5.49	7,291.92	5,649.23	477.93	5,668.14	1.85	-1.68	-0.76
13,151.00	88.83	2.19	7,293.28	5,743.00	484.22	5,762.11	3.58	-0.72	-3.51
13,246.00	89.01	359.67	7,295.07	5,837.96	485.76	5,856.98	2.66	0.19	-2.65
13,341.00	88.77	358.60	7,296.92	5,932.93	484.33	5,951.67	1.15	-0.25	-1.13
13,436.00	88.33	357.16	7,299.32	6,027.83	480.82	6,046.16	1.58	-0.46	-1.52
13,531.00	89.82	357.99	7,300.85	6,122.73	476.80	6,140.62	1.80	1.57	0.87
13,626.00	89.82	358.76	7,301.15	6,217.69	474.10	6,235.22	0.81	0.00	0.81
13,721.00	87.29	357.43	7,303.55	6,312.60	470.95	6,329.74	3.01	-2.66	-1.40
13,816.00	86.36	357.25	7,308.81	6,407.35	466.54	6,424.02	1.00	-0.98	-0.19
13,911.00	88.52	355.24	7,313.05	6,502.04	460.33	6,518.13	3.10	2.27	-2.12
14,006.00	88.20	355.64	7,315.77	6,596.70	452.78	6,612.13	0.54	-0.34	0.42
14,101.00	88.39	356.07	7,318.60	6,691.41	445.92	6,706.22	0.49	0.20	0.45
14,197.00	87.90	356.23	7,321.70	6,787.15	439.47	6,801.35	0.54	-0.51	0.17
14,229.00	87.96	356.57	7,322.86	6,819.06	437.46	6,833.08	1.08	0.19	1.06
last mwd survey									
14,281.00	88.06	357.12	7,324.67	6,870.95	434.60	6,884.68	1.07	0.19	1.06
projection									

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
SWD 1-30 BHL	0.00	0.00	9,690.92	5,871.01	765.57	1,313,811.29	3,223,833.58	40.192033	-104.698766
- actual wellpath misses target center by 2411.20ft at 13321.23ft MD (7296.50 TVD, 5913.17 N, 484.77 E)									
- Rectangle (sides W1,000.00 H1,000.00 D0.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
7,742.64	7,325.66	7"		7	8-3/4

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
792.00	792.00	-0.29	-0.94	tie on to gyros
14,229.00	7,322.86	6,819.06	437.46	last mwd survey
14,281.00	7,324.67	6,870.95	434.60	projection

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CAMP 37-31HZ PAD

Camp 24C-30HZ

Camp 24C-30HZ

Design: Camp 24C-30HZ

Survey Report - Geographic

19 July, 2012

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_CAMP 37-31HZ PAD			
Site Position:		Northing:	1,307,943.36 usft	Latitude:	40.175944
From:	Lat/Long	Easting:	3,223,064.93 usft	Longitude:	-104.701706
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52 °

Well	Camp 24C-30HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,933.64 usft	Latitude:	40.175916
	+E/-W	0.00 ft	Easting:	3,223,120.90 usft	Longitude:	-104.701506
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,949.00 ft

Wellbore	Camp 24C-30HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2012	8.69	66.85	52,926

Design	Camp 24C-30HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	3.62	

Survey Program	Date	7/19/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	792.00	Survey #1 (Camp 24C-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
985.00	14,281.00	Survey #2 (Camp 24C-30HZ)	MWD	MWD - STANDARD	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,307,933.64	3,223,120.90	40.175916	-104.701506
100.00	0.19	292.17	100.00	0.06	-0.15	1,307,933.70	3,223,120.75	40.175916	-104.701507
200.00	0.22	186.37	200.00	-0.07	-0.33	1,307,933.57	3,223,120.58	40.175916	-104.701507
300.00	0.22	164.46	300.00	-0.44	-0.30	1,307,933.19	3,223,120.61	40.175915	-104.701507
400.00	0.08	52.65	400.00	-0.58	-0.19	1,307,933.05	3,223,120.72	40.175914	-104.701507
500.00	0.29	347.17	500.00	-0.29	-0.19	1,307,933.34	3,223,120.72	40.175915	-104.701507
600.00	0.06	291.86	600.00	-0.03	-0.30	1,307,933.60	3,223,120.61	40.175916	-104.701507
700.00	0.33	259.78	700.00	-0.06	-0.63	1,307,933.57	3,223,120.28	40.175916	-104.701509
792.00	0.23	195.46	792.00	-0.29	-0.94	1,307,933.34	3,223,119.97	40.175915	-104.701510
tie on to gyros									
985.00	0.14	264.77	985.00	-0.68	-1.28	1,307,932.94	3,223,119.63	40.175914	-104.701511

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,081.00	1.54	152.17	1,080.98	-1.83	-0.79	1,307,931.80	3,223,120.13	40.175911	-104.701509	
1,175.00	3.99	135.87	1,174.87	-5.30	2.08	1,307,928.36	3,223,123.03	40.175901	-104.701499	
1,270.00	6.50	127.72	1,269.46	-10.96	8.63	1,307,922.75	3,223,129.63	40.175886	-104.701475	
1,365.00	8.51	125.39	1,363.65	-18.32	18.62	1,307,915.48	3,223,139.69	40.175866	-104.701440	
1,460.00	10.48	123.34	1,457.34	-27.14	31.57	1,307,906.78	3,223,152.71	40.175842	-104.701393	
1,502.00	10.51	124.65	1,498.64	-31.42	37.91	1,307,902.56	3,223,159.09	40.175830	-104.701371	
1,597.00	10.62	126.59	1,592.03	-41.56	52.06	1,307,892.54	3,223,173.34	40.175802	-104.701320	
1,692.00	10.61	127.90	1,685.40	-52.15	65.99	1,307,882.08	3,223,187.37	40.175773	-104.701270	
1,787.00	10.89	123.90	1,778.74	-62.53	80.34	1,307,871.83	3,223,201.81	40.175744	-104.701219	
1,882.00	10.04	123.02	1,872.15	-72.05	94.74	1,307,862.44	3,223,216.29	40.175718	-104.701167	
1,976.00	9.25	121.66	1,964.83	-80.48	108.04	1,307,854.13	3,223,229.66	40.175695	-104.701120	
2,071.00	9.02	121.17	2,058.62	-88.34	120.91	1,307,846.39	3,223,242.60	40.175674	-104.701074	
2,166.00	7.66	121.54	2,152.61	-95.51	132.68	1,307,839.33	3,223,254.44	40.175654	-104.701031	
2,261.00	8.77	126.96	2,246.64	-103.18	143.86	1,307,831.76	3,223,265.69	40.175633	-104.700991	
2,356.00	9.44	122.82	2,340.44	-111.75	156.20	1,307,823.29	3,223,278.10	40.175609	-104.700947	
2,451.00	9.46	124.44	2,434.15	-120.39	169.18	1,307,814.77	3,223,291.16	40.175586	-104.700901	
2,546.00	9.06	122.23	2,527.92	-128.79	181.95	1,307,806.48	3,223,304.00	40.175562	-104.700855	
2,641.00	9.39	121.96	2,621.69	-136.89	194.85	1,307,798.51	3,223,316.98	40.175540	-104.700809	
2,736.00	10.56	129.87	2,715.25	-146.57	208.11	1,307,788.95	3,223,330.32	40.175514	-104.700762	
2,830.00	12.46	129.96	2,807.36	-158.60	222.49	1,307,777.04	3,223,344.82	40.175481	-104.700710	
2,925.00	13.07	119.86	2,900.02	-170.54	239.67	1,307,765.26	3,223,362.10	40.175448	-104.700649	
3,020.00	11.85	121.07	2,992.78	-180.92	257.34	1,307,755.04	3,223,379.86	40.175419	-104.700585	
3,115.00	11.08	123.63	3,085.89	-191.01	273.29	1,307,745.10	3,223,395.91	40.175392	-104.700528	
3,210.00	9.76	129.78	3,179.32	-201.22	287.08	1,307,735.01	3,223,409.79	40.175364	-104.700479	
3,305.00	9.47	116.15	3,273.00	-209.82	300.29	1,307,726.53	3,223,423.07	40.175340	-104.700432	
3,400.00	6.68	117.46	3,367.05	-215.81	312.21	1,307,720.65	3,223,435.04	40.175324	-104.700389	
3,495.00	6.35	116.19	3,461.43	-220.68	321.83	1,307,715.87	3,223,444.70	40.175310	-104.700355	
3,589.00	9.12	116.48	3,554.57	-226.29	333.16	1,307,710.35	3,223,456.09	40.175295	-104.700314	
3,684.00	8.68	113.64	3,648.43	-232.52	346.47	1,307,704.24	3,223,469.45	40.175278	-104.700266	
3,779.00	7.67	127.67	3,742.47	-239.27	358.05	1,307,697.60	3,223,481.10	40.175259	-104.700225	
3,874.00	8.54	133.32	3,836.52	-247.99	368.20	1,307,688.97	3,223,491.32	40.175235	-104.700189	
3,969.00	10.35	127.49	3,930.23	-258.02	380.11	1,307,679.05	3,223,503.32	40.175208	-104.700146	
4,064.00	11.38	125.52	4,023.53	-268.66	394.51	1,307,668.54	3,223,517.81	40.175179	-104.700094	
4,159.00	10.93	123.70	4,116.73	-279.10	409.63	1,307,658.23	3,223,533.03	40.175150	-104.700040	
4,253.00	8.43	122.79	4,209.39	-287.78	422.84	1,307,649.67	3,223,546.32	40.175126	-104.699993	
4,349.00	4.74	118.76	4,304.74	-293.50	432.23	1,307,644.04	3,223,555.76	40.175110	-104.699959	
4,443.00	2.45	139.33	4,398.55	-296.90	436.95	1,307,640.69	3,223,560.51	40.175101	-104.699943	
4,538.00	1.44	137.85	4,493.49	-299.32	439.07	1,307,638.28	3,223,562.65	40.175094	-104.699935	
4,633.00	1.03	167.84	4,588.47	-301.04	440.05	1,307,636.57	3,223,563.65	40.175090	-104.699931	
4,728.00	0.91	170.56	4,683.46	-302.62	440.36	1,307,634.99	3,223,563.97	40.175085	-104.699930	
4,823.00	1.36	216.07	4,778.44	-304.28	439.82	1,307,633.33	3,223,563.44	40.175081	-104.699932	
4,918.00	2.64	224.25	4,873.38	-306.75	437.63	1,307,630.84	3,223,561.27	40.175074	-104.699940	
5,014.00	1.33	249.65	4,969.32	-308.72	435.04	1,307,628.84	3,223,558.71	40.175069	-104.699949	
5,109.00	0.14	281.99	5,064.31	-309.08	433.89	1,307,628.47	3,223,557.56	40.175068	-104.699954	
5,204.00	0.56	32.02	5,159.31	-308.67	434.02	1,307,628.89	3,223,557.69	40.175069	-104.699953	
5,298.00	0.70	48.92	5,253.31	-307.90	434.70	1,307,629.66	3,223,558.36	40.175071	-104.699951	
5,392.00	1.09	53.87	5,347.30	-307.00	435.86	1,307,630.58	3,223,559.51	40.175073	-104.699946	
5,487.00	1.09	49.40	5,442.28	-305.87	437.27	1,307,631.71	3,223,560.91	40.175076	-104.699941	
5,582.00	1.04	50.80	5,537.26	-304.74	438.63	1,307,632.86	3,223,562.26	40.175079	-104.699937	
5,677.00	0.78	63.03	5,632.25	-303.90	439.87	1,307,633.71	3,223,563.49	40.175082	-104.699932	
5,771.00	0.82	67.22	5,726.24	-303.35	441.06	1,307,634.27	3,223,564.68	40.175083	-104.699928	
5,866.00	0.56	82.27	5,821.23	-303.03	442.15	1,307,634.60	3,223,565.76	40.175084	-104.699924	
5,961.00	0.69	149.82	5,916.23	-303.46	442.90	1,307,634.18	3,223,566.51	40.175083	-104.699921	
6,056.00	0.20	275.85	6,011.23	-303.94	443.02	1,307,633.70	3,223,566.64	40.175082	-104.699921	
6,151.00	0.44	63.82	6,106.23	-303.76	443.18	1,307,633.88	3,223,566.80	40.175082	-104.699920	

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,246.00	0.53	92.03	6,201.22	-303.61	443.95	1,307,634.03	3,223,567.57	40.175083	-104.699918
6,340.00	0.44	148.84	6,295.22	-303.94	444.57	1,307,633.71	3,223,568.19	40.175082	-104.699915
6,435.00	0.58	153.71	6,390.22	-304.68	444.97	1,307,632.97	3,223,568.60	40.175080	-104.699914
6,530.00	1.00	178.22	6,485.21	-305.94	445.21	1,307,631.72	3,223,568.85	40.175076	-104.699913
6,624.00	0.97	183.83	6,579.19	-307.55	445.18	1,307,630.10	3,223,568.84	40.175072	-104.699913
6,656.00	1.25	190.93	6,611.19	-308.17	445.10	1,307,629.49	3,223,568.76	40.175070	-104.699913
6,688.00	1.19	186.20	6,643.18	-308.84	444.99	1,307,628.82	3,223,568.66	40.175068	-104.699914
6,719.00	0.49	316.08	6,674.18	-309.06	444.87	1,307,628.59	3,223,568.54	40.175068	-104.699914
6,751.00	4.35	356.58	6,706.15	-307.75	444.70	1,307,629.90	3,223,568.36	40.175071	-104.699915
6,783.00	7.79	0.30	6,737.96	-304.37	444.64	1,307,633.28	3,223,568.27	40.175080	-104.699915
6,815.00	9.09	0.73	6,769.61	-299.68	444.68	1,307,637.98	3,223,568.27	40.175093	-104.699915
6,846.00	9.40	358.06	6,800.21	-294.70	444.63	1,307,642.95	3,223,568.17	40.175107	-104.699915
6,878.00	12.64	359.56	6,831.62	-288.58	444.51	1,307,649.07	3,223,568.00	40.175124	-104.699916
6,909.00	15.71	0.78	6,861.67	-280.99	444.54	1,307,656.66	3,223,567.96	40.175145	-104.699915
6,941.00	18.44	2.67	6,892.26	-271.60	444.84	1,307,666.05	3,223,568.17	40.175170	-104.699914
6,972.00	21.00	5.38	6,921.44	-261.17	445.59	1,307,676.48	3,223,568.83	40.175199	-104.699912
7,004.00	23.62	5.07	6,951.04	-249.08	446.69	1,307,688.59	3,223,569.82	40.175232	-104.699908
7,036.00	26.52	4.25	6,980.02	-235.57	447.79	1,307,702.11	3,223,570.80	40.175269	-104.699904
7,067.00	29.72	2.95	7,007.36	-220.99	448.70	1,307,716.70	3,223,571.57	40.175309	-104.699901
7,099.00	32.97	0.62	7,034.69	-204.35	449.20	1,307,733.34	3,223,571.93	40.175355	-104.699899
7,130.00	36.47	359.93	7,060.16	-186.70	449.28	1,307,750.99	3,223,571.85	40.175404	-104.699898
7,162.00	39.15	0.02	7,085.44	-167.08	449.27	1,307,770.61	3,223,571.66	40.175457	-104.699898
7,194.00	41.35	0.94	7,109.86	-146.41	449.45	1,307,791.28	3,223,571.65	40.175514	-104.699898
7,225.00	44.51	0.91	7,132.56	-125.30	449.79	1,307,812.39	3,223,571.80	40.175572	-104.699897
7,257.00	46.76	359.90	7,154.93	-102.43	449.95	1,307,835.27	3,223,571.75	40.175635	-104.699896
7,288.00	49.27	358.79	7,175.67	-79.39	449.68	1,307,858.30	3,223,571.28	40.175698	-104.699897
7,320.00	52.83	357.83	7,195.78	-54.52	448.94	1,307,883.16	3,223,570.32	40.175766	-104.699900
7,352.00	55.40	358.71	7,214.54	-28.60	448.16	1,307,909.07	3,223,569.30	40.175837	-104.699902
7,383.00	57.74	358.57	7,231.61	-2.74	447.55	1,307,934.92	3,223,568.46	40.175908	-104.699905
7,415.00	61.32	359.44	7,247.84	24.83	447.07	1,307,962.49	3,223,567.73	40.175984	-104.699906
7,446.00	65.47	0.51	7,261.72	52.54	447.06	1,307,990.20	3,223,567.48	40.176060	-104.699906
7,478.00	68.07	0.97	7,274.34	81.94	447.45	1,308,019.60	3,223,567.59	40.176141	-104.699905
7,509.00	69.19	1.22	7,285.64	110.80	448.00	1,308,048.47	3,223,567.88	40.176220	-104.699903
7,541.00	72.83	1.80	7,296.05	141.05	448.80	1,308,078.72	3,223,568.41	40.176303	-104.699900
7,573.00	76.23	2.49	7,304.58	171.86	449.95	1,308,109.54	3,223,569.29	40.176388	-104.699896
7,604.00	79.94	0.75	7,310.98	202.17	450.81	1,308,139.86	3,223,569.87	40.176471	-104.699893
7,636.00	81.93	358.03	7,316.02	233.77	450.47	1,308,171.45	3,223,569.25	40.176558	-104.699894
7,668.00	83.35	356.15	7,320.12	265.46	448.86	1,308,203.13	3,223,567.35	40.176645	-104.699900
7,689.00	84.46	355.87	7,322.35	286.29	447.40	1,308,223.94	3,223,565.71	40.176702	-104.699905
7,742.64	88.48	358.07	7,325.66	339.74	444.57	1,308,277.36	3,223,562.40	40.176849	-104.699915
7"									
7,763.00	90.00	358.90	7,325.93	360.09	444.04	1,308,297.71	3,223,561.68	40.176905	-104.699917
7,854.00	90.12	0.96	7,325.83	451.09	443.93	1,308,388.70	3,223,560.75	40.177154	-104.699918
7,946.00	89.91	359.32	7,325.81	543.08	444.15	1,308,480.69	3,223,560.15	40.177407	-104.699917
8,037.00	90.68	0.22	7,325.34	634.08	443.78	1,308,571.68	3,223,558.96	40.177657	-104.699918
8,129.00	91.67	1.08	7,323.45	726.05	444.83	1,308,663.66	3,223,559.18	40.177909	-104.699914
8,220.00	91.32	0.73	7,321.08	817.01	446.26	1,308,754.63	3,223,559.79	40.178159	-104.699909
8,310.00	88.64	357.73	7,321.11	906.98	445.06	1,308,844.59	3,223,557.77	40.178406	-104.699913
8,401.00	89.26	355.80	7,322.78	997.82	439.92	1,308,935.37	3,223,551.82	40.178655	-104.699932
8,493.00	90.00	355.64	7,323.37	1,089.56	433.06	1,309,027.05	3,223,544.13	40.178907	-104.699956
8,616.00	91.29	358.51	7,321.99	1,212.37	426.78	1,309,149.80	3,223,536.75	40.179244	-104.699979
8,708.00	92.65	0.62	7,318.83	1,304.31	426.08	1,309,241.73	3,223,535.22	40.179497	-104.699981
8,800.00	92.04	0.20	7,315.06	1,396.23	426.74	1,309,333.65	3,223,535.05	40.179749	-104.699979
8,893.00	91.11	2.54	7,312.50	1,489.16	428.96	1,309,426.60	3,223,536.44	40.180004	-104.699971
8,985.00	89.29	0.20	7,312.18	1,581.12	431.16	1,309,518.57	3,223,537.81	40.180256	-104.699963

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,077.00	90.37	0.14	7,312.46	1,673.12	431.43	1,309,610.57	3,223,537.25	40.180509	-104.699962
9,169.00	91.06	359.32	7,311.31	1,765.11	431.00	1,309,702.55	3,223,535.99	40.180761	-104.699964
9,261.00	90.86	2.40	7,309.77	1,857.08	432.38	1,309,794.53	3,223,536.54	40.181014	-104.699959
9,353.00	89.01	1.33	7,309.87	1,949.02	435.37	1,309,886.50	3,223,538.71	40.181266	-104.699948
9,448.00	88.52	1.64	7,311.92	2,043.97	437.84	1,309,981.46	3,223,540.32	40.181527	-104.699939
9,543.00	89.81	2.06	7,313.30	2,138.91	440.90	1,310,076.42	3,223,542.53	40.181788	-104.699928
9,637.00	89.51	1.62	7,313.86	2,232.86	443.92	1,310,170.39	3,223,544.70	40.182045	-104.699917
9,733.00	88.94	1.61	7,315.16	2,328.81	446.63	1,310,266.37	3,223,546.54	40.182309	-104.699908
9,828.00	90.37	0.96	7,315.73	2,423.78	448.76	1,310,361.35	3,223,547.82	40.182570	-104.699900
9,922.00	89.44	0.89	7,315.89	2,517.77	450.27	1,310,455.35	3,223,548.49	40.182828	-104.699895
10,017.00	89.91	359.67	7,316.43	2,612.76	450.74	1,310,550.35	3,223,548.10	40.183088	-104.699893
10,113.00	90.37	359.19	7,316.19	2,708.76	449.78	1,310,646.33	3,223,546.28	40.183352	-104.699896
10,208.00	89.45	358.76	7,316.34	2,803.74	448.08	1,310,741.29	3,223,543.72	40.183613	-104.699903
10,303.00	91.85	1.08	7,315.26	2,898.72	447.95	1,310,836.27	3,223,542.73	40.183873	-104.699903
10,398.00	89.88	358.71	7,313.83	2,993.70	447.78	1,310,931.24	3,223,541.70	40.184134	-104.699904
10,493.00	88.03	356.16	7,315.56	3,088.58	443.53	1,311,026.07	3,223,536.60	40.184395	-104.699919
10,588.00	89.81	358.97	7,317.35	3,183.46	439.49	1,311,120.92	3,223,531.71	40.184655	-104.699933
10,684.00	90.88	0.02	7,316.77	3,279.45	438.65	1,311,216.90	3,223,530.00	40.184918	-104.699936
10,779.00	90.49	1.74	7,315.64	3,374.43	440.11	1,311,311.88	3,223,530.61	40.185179	-104.699931
10,874.00	89.88	1.40	7,315.33	3,469.39	442.71	1,311,406.87	3,223,532.35	40.185440	-104.699922
10,969.00	88.83	0.62	7,316.40	3,564.37	444.38	1,311,501.86	3,223,533.17	40.185701	-104.699916
11,064.00	90.86	1.95	7,316.66	3,659.34	446.51	1,311,596.84	3,223,534.45	40.185961	-104.699908
11,160.00	87.60	357.94	7,317.95	3,755.30	446.42	1,311,692.79	3,223,533.49	40.186225	-104.699908
11,255.00	89.81	359.60	7,320.10	3,850.24	444.38	1,311,787.72	3,223,530.60	40.186485	-104.699916
11,349.00	91.85	2.53	7,318.73	3,944.20	446.13	1,311,881.69	3,223,531.50	40.186743	-104.699909
11,444.00	91.54	2.05	7,315.92	4,039.08	449.92	1,311,976.60	3,223,534.44	40.187004	-104.699896
11,539.00	91.23	0.90	7,313.63	4,134.02	452.37	1,312,071.56	3,223,536.03	40.187264	-104.699887
11,634.00	93.45	2.57	7,309.75	4,228.89	455.24	1,312,166.44	3,223,538.05	40.187525	-104.699877
11,729.00	93.03	2.35	7,304.38	4,323.65	459.31	1,312,261.24	3,223,541.26	40.187785	-104.699862
11,823.00	92.90	2.06	7,299.52	4,417.46	462.92	1,312,355.07	3,223,544.03	40.188042	-104.699849
11,918.00	91.54	1.49	7,295.84	4,512.34	465.86	1,312,449.97	3,223,546.12	40.188303	-104.699839
12,013.00	87.53	358.77	7,296.61	4,607.30	466.08	1,312,544.94	3,223,545.48	40.188564	-104.699838
12,108.00	86.97	358.75	7,301.17	4,702.17	464.03	1,312,639.79	3,223,542.57	40.188824	-104.699845
12,204.00	88.03	358.54	7,305.35	4,798.05	461.76	1,312,735.64	3,223,539.44	40.189087	-104.699853
12,298.00	90.68	358.48	7,306.41	4,892.01	459.32	1,312,829.57	3,223,536.15	40.189345	-104.699862
12,393.00	91.06	358.26	7,304.97	4,986.96	456.61	1,312,924.49	3,223,532.59	40.189606	-104.699872
12,487.00	90.25	359.28	7,303.89	5,080.93	454.60	1,313,018.44	3,223,529.73	40.189864	-104.699879
12,582.00	90.19	358.03	7,303.53	5,175.90	452.37	1,313,113.39	3,223,526.64	40.190124	-104.699887
12,677.00	91.85	358.23	7,301.84	5,270.83	449.27	1,313,208.29	3,223,522.69	40.190385	-104.699898
12,772.00	92.65	2.83	7,298.11	5,365.73	450.14	1,313,303.19	3,223,522.71	40.190646	-104.699895
12,867.00	91.54	6.42	7,294.63	5,460.34	457.80	1,313,397.86	3,223,529.51	40.190905	-104.699868
12,962.00	91.11	6.21	7,292.44	5,554.73	468.24	1,313,492.35	3,223,539.11	40.191164	-104.699830
13,057.00	89.51	5.49	7,291.92	5,649.23	477.93	1,313,586.93	3,223,547.94	40.191424	-104.699796
13,151.00	88.83	2.19	7,293.28	5,743.00	484.22	1,313,680.75	3,223,553.39	40.191681	-104.699773
13,246.00	89.01	359.67	7,295.07	5,837.96	485.76	1,313,775.72	3,223,554.08	40.191942	-104.699767
13,341.00	88.77	358.60	7,296.92	5,932.93	484.33	1,313,870.68	3,223,551.79	40.192203	-104.699773
13,436.00	88.33	357.16	7,299.32	6,027.83	480.82	1,313,965.54	3,223,547.42	40.192463	-104.699785
13,531.00	89.82	357.99	7,300.85	6,122.73	476.80	1,314,060.40	3,223,542.55	40.192724	-104.699800
13,626.00	89.82	358.76	7,301.15	6,217.69	474.10	1,314,155.33	3,223,539.00	40.192984	-104.699809
13,721.00	87.29	357.43	7,303.55	6,312.60	470.95	1,314,250.21	3,223,534.99	40.193245	-104.699820
13,816.00	86.36	357.25	7,308.81	6,407.35	466.54	1,314,344.92	3,223,529.73	40.193505	-104.699836
13,911.00	88.52	355.24	7,313.05	6,502.04	460.33	1,314,439.55	3,223,522.67	40.193765	-104.699858
14,006.00	88.20	355.64	7,315.77	6,596.70	452.78	1,314,534.14	3,223,514.26	40.194025	-104.699885
14,101.00	88.39	356.07	7,318.60	6,691.41	445.92	1,314,628.78	3,223,506.55	40.194285	-104.699910
14,197.00	87.90	356.23	7,321.70	6,787.15	439.47	1,314,724.45	3,223,499.24	40.194548	-104.699933

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Camp 24C-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB + 4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB + 4949' GL @ 4974.00ft
Well:	Camp 24C-30HZ	North Reference:	True
Wellbore:	Camp 24C-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	Camp 24C-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,229.00	87.96	356.57	7,322.86	6,819.06	437.46	1,314,756.35	3,223,496.95	40.194635	-104.699940
last mwd survey									
14,281.00	88.06	357.12	7,324.67	6,870.95	434.60	1,314,808.21	3,223,493.62	40.194778	-104.699951
projection									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SWD 1-30 BHL	0.00	0.00	9,690.92	5,871.01	765.57	1,313,811.29	3,223,833.58	40.192033	-104.698766
- actual wellpath misses target center by 2411.20ft at 13321.23ft MD (7296.50 TVD, 5913.17 N, 484.77 E)									
- Rectangle (sides W1,000.00 H1,000.00 D0.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,742.64	7,325.66	7"	7	8-3/4	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
792.00	792.00	-0.29	-0.94	tie on to gyros	
14,229.00	7,322.86	6,819.06	437.46	last mwd survey	
14,281.00	7,324.67	6,870.95	434.60	projection	

Checked By: _____ Approved By: _____ Date: _____



DAILY ACTIVITY

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 1 - 2012/07/02

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Stephen Schear, Brian Trani

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Pat Cain, James Johnson

GROUND ELEV: 4949 ft

START DEPTH: 792.0 ft

PROGRESS: 443.0 ft

DAILY COST: USD\$25141.10

KB ELEV: 4974 ft

END DEPTH: 1235.0 ft

AVG. ROP.: 280.4 ft/hr

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$25141.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-19:30	Wait On Orders	19.50	792	1	22:40-22:45	Rotating With Motor	0.08	1055	1
19:30-20:40	Handle Directional Tools	1.17	792	1	22:45-22:55	Orienting With Motor	0.17	1073	1
20:40-21:10	RIH	0.50	821	1	22:55-23:10	Rotating With Motor	0.25	1141	1
21:10-21:50	Drill Out Flt, Shoe & Cmmt	0.67	865	1	23:10-23:15	Circ & Accumulate Surveys	0.08	1141	1
21:50-22:15	Rotating With Motor	0.42	950	1	23:15-23:20	Orienting With Motor	0.08	1166	1
22:15-22:20	Circ & Accumulate Surveys - check shot no good.	0.08	950	1	23:20-23:40	Rotating With Motor	0.33	1235	1
22:20-22:35	Rotating With Motor	0.25	1045	1	23:40-23:50	Circ & Accumulate Surveys	0.17	1235	1
22:35-22:40	Circ & Accumulate Surveys	0.08	1045	1	23:50-24:00	Rig Service	0.17	1235	1

TIME SUMMARY (hrs):

MOTOR DRILL:	1.58	ORIENTING HRS:	0.25	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	1.33	MOTOR HRS:	2.67
MOTOR REAM:	0.00	TRIP:	0.50		
CIRC:	1.08	ROTARY DRILL:	0.00	OTHER:	20.83
MOTOR HRS:	2.67	DRILL HRS:	1.58	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	5000 ft-lb	STRING WEIGHT	0 lbs
WOB SLIDING (HI):	10000 lbf	WOB ROTATE (HI):	20000 lbf
WOB SLIDING (LO):	5000 lbf	WOB ROTATE (LO):	12000 lbf
RPM (ROTARY):	55 rpm	DRAG UP:	0 lbf
RPM (MOTOR):	167 rpm	DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 8.75 in	SECTION TYPE: Build & Hold	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-4013	MODEL: QLE7850
SETTING: 1.5 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Varel	BIT TYPE: Varel PDC Bit	TYPE: VM513	MTR HRS THIS DAY: 2.6666666666666666
IADC BIT GRADE: 1 / 2 / BT / N / X / I / CT / BHA			MTR HRS TO DATE: 2.6666666666666666
			NOZZLES: 0.863 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2900	TOTAL FLOW RATE: 598.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 29 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 8.4 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Wait on Orders

P/U BHA # 1

RIH, Drill out CMT, FLT & Shoe

Drill ahead in build & Hold section F/ 792' - 1235'

This motor is being ran to the max per Company mans request. It was explained to the the company man that running this hard on our equipment is not recommended. Parameters being ran are as followed.



Daily Activity Report

Day 1 - 2012/07/02

Drilling Services
v4.2.2674

GPM = 600 gpm

Diff. Pressure = 1200 psi

WOB = 45 klb

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 2 - 2012/07/03****FILE #:** 4026335**WELL NAME:** Camp 24C-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** HEL LWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear**MWD Supervisor:** Jett Hunter, Jon Leger**MWD Trainee:** James Asher**Company Man:** James Johnson, Pat Cain**GROUND ELEV:** 4949 ft**START DEPTH:** 1235.0 ft**PROGRESS:** 3086.0 ft**DAILY COST:** USD\$19527.50**KB ELEV:** 4974 ft**END DEPTH:** 4321.0 ft**AVG. ROP.:** 189.9 ft/hr**PREVIOUS COST:** USD\$25141.10**TOTAL COST:** USD\$44668.60**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Rig Service	0.17	1235	1	12:45-12:50	Orienting With Motor	0.08	2874	1
00:10-00:20	Orienting With Motor	0.17	1260	1	12:50-12:55	Rotating With Motor	0.08	2890	1
00:20-00:40	Rotating With Motor	0.33	1330	1	12:55-13:00	Circ & Accumulate Surveys	0.08	2890	1
00:40-00:45	Circ & Accumulate Surveys	0.08	1330	1	13:00-13:10	Orienting With Motor	0.17	2905	1
00:45-00:55	Orienting With Motor	0.17	1355	1	13:10-13:30	Rotating With Motor	0.33	2985	1
00:55-01:10	Rotating With Motor	0.25	1425	1	13:30-13:35	Circ & Accumulate Surveys	0.08	2985	1
01:10-01:15	Circ & Accumulate Surveys	0.08	1425	1	13:35-13:45	Rotating With Motor	0.17	3080	1
01:15-01:25	Orienting With Motor	0.17	1443	1	13:45-13:50	Circ & Accumulate Surveys	0.08	3080	1
01:25-01:40	Rotating With Motor	0.25	1520	1	13:50-14:25	Rotating With Motor	0.58	3175	1
01:40-01:45	Circ & Accumulate Surveys	0.08	1520	1	14:25-14:30	Circ & Accumulate Surveys	0.08	3175	1
01:45-02:45	POOH - See Comments - pick up HWDP.	1.00	1520	1	14:30-14:35	Orienting With Motor	0.08	3185	1
02:45-05:00	RIH - See Comments - picking up 4.5 HWDP	2.25	1520	1	14:35-14:55	Rotating With Motor	0.33	3270	1
05:00-05:20	Rotating With Motor	0.33	1562	1	14:55-15:00	Circ & Accumulate Surveys	0.08	3270	1
05:20-05:25	Circ & Accumulate Surveys	0.08	1562	1	15:00-15:15	Orienting With Motor	0.25	3300	1
05:25-05:35	POOH - See Comments - Lay down 1jt-dp	0.17	1562	1	15:15-15:25	Rotating With Motor	0.17	3365	1
05:35-05:55	Rotating With Motor	0.33	1657	1	15:25-16:00	Other - See Comments - Lay down washed jts	0.58	3365	1
05:55-06:00	Circ & Accumulate Surveys	0.08	1657	1	16:00-16:05	Circ & Accumulate Surveys	0.08	3365	1
06:00-06:30	Rotating With Motor	0.50	1752	1	16:05-16:25	Rotating With Motor	0.33	3460	1
06:30-06:35	Circ & Accumulate Surveys	0.08	1752	1	16:25-16:30	Circ & Accumulate Surveys	0.08	3460	1
06:35-06:45	Orienting With Motor	0.17	1767	1	16:30-16:40	Orienting With Motor	0.17	3495	1
06:45-07:05	Rotating With Motor	0.33	1847	1	16:40-16:50	Rotating With Motor	0.17	3523	1
07:05-07:10	Circ & Accumulate Surveys	0.08	1847	1	16:50-16:55	Orienting With Motor	0.08	3543	1
07:10-07:35	Rotating With Motor	0.42	1942	1	16:55-17:05	Rotating With Motor	0.17	3555	1
07:35-07:40	Circ & Accumulate Surveys	0.08	1942	1	17:05-17:10	Circ & Accumulate Surveys	0.08	3555	1
07:40-08:05	Rotating With Motor	0.42	2036	1	17:10-17:20	Orienting With Motor	0.17	3585	1
08:05-08:10	Circ & Accumulate Surveys	0.08	2036	1	17:20-17:30	Rotating With Motor	0.17	3618	1
08:10-08:35	Rotating With Motor	0.42	2131	1	17:30-17:35	Circ & Accumulate Surveys	0.08	3618	1
08:35-08:40	Circ & Accumulate Surveys	0.08	2131	1	17:35-17:50	Rotating With Motor	0.25	3649	1
08:40-09:05	Rotating With Motor	0.42	2226	1	17:50-17:55	Circ & Accumulate Surveys	0.08	3649	1
09:05-09:10	Circ & Accumulate Surveys	0.08	2226	1	17:55-18:05	Orienting With Motor	0.17	3674	1
09:10-09:15	Orienting With Motor	0.08	2251	1	18:05-18:30	Rotating With Motor	0.42	3744	1
09:15-09:35	Rotating With Motor	0.33	2321	1	18:30-18:35	Circ & Accumulate Surveys	0.08	3744	1
09:35-09:40	Circ & Accumulate Surveys	0.08	2321	1	18:35-19:00	Orienting With Motor	0.42	3769	1
09:40-09:50	Orienting With Motor	0.17	2341	1	19:00-19:15	Rotating With Motor	0.25	3839	1
09:50-10:05	Rotating With Motor	0.25	2416	1	19:15-19:20	Circ & Accumulate Surveys	0.08	3839	1
10:05-10:10	Circ & Accumulate Surveys	0.08	2416	1	19:20-19:35	Orienting With Motor	0.25	3870	1
10:10-10:15	Orienting With Motor	0.08	2436	1	19:35-19:50	Rotating With Motor	0.25	3902	1
10:15-10:30	Rotating With Motor	0.25	2511	1	19:50-20:05	Orienting With Motor	0.25	3912	1
10:30-10:50	Rig Repair	0.33	2511	1	20:05-20:15	Rotating With Motor	0.17	3934	1

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 2 - 2012/07/03**

10:50-10:55	Circ & Accumulate Surveys	0.08	2511	1	20:15-20:20	Circ & Accumulate Surveys	0.08	3934	1
10:55-11:00	Orienting With Motor	0.08	2531	1	20:20-20:45	Orienting With Motor	0.42	3966	1
11:00-11:15	Rotating With Motor	0.25	2606	1	20:45-21:05	Rotating With Motor	0.33	4029	1
11:15-11:20	Circ & Accumulate Surveys	0.08	2606	1	21:05-21:10	Circ & Accumulate Surveys	0.08	4029	1
11:20-11:30	Orienting With Motor	0.17	2636	1	21:10-21:35	Orienting With Motor	0.42	4060	1
11:30-11:50	Rotating With Motor	0.33	2701	1	21:35-21:55	Rotating With Motor	0.33	4124	1
11:50-11:55	Circ & Accumulate Surveys	0.08	2701	1	21:55-22:00	Circ & Accumulate Surveys	0.08	4124	1
11:55-12:00	Orienting With Motor	0.08	2731	1	22:00-22:20	Rotating With Motor	0.33	4219	1
12:00-12:05	Rotating With Motor	0.08	2764	1	22:20-22:25	Circ & Accumulate Surveys	0.08	4219	1
12:05-12:15	Orienting With Motor	0.17	2784	1	22:25-23:00	Orienting With Motor	0.58	4227	1
12:15-12:20	Rotating With Motor	0.08	2796	1	23:00-23:20	Rotating With Motor	0.33	4313	1
12:20-12:25	Circ & Accumulate Surveys	0.08	2796	1	23:20-23:25	Circ & Accumulate Surveys	0.08	4313	1
12:25-12:40	Rotating With Motor	0.25	2859	1	23:25-23:45	Rig Service	0.33	4313	1
12:40-12:45	Circ & Accumulate Surveys	0.08	2859	1	23:45-24:00	Orienting With Motor	0.25	4321	1

TIME SUMMARY (hrs):

MOTOR DRILL: 16.25	ORIENTING HRS: 5.25	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 11.00	MOTOR HRS: 19.17
MOTOR REAM: 0.00		TRIP: 3.42
CIRC: 2.92	ROTARY DRILL: 0.00	OTHER: 1.42
MOTOR HRS: 19.17	DRILL HRS: 16.25	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 3200 ft-lb	STRING WEIGHT 119000 lbs
WOB SLIDING (HI): 15000 lbf	WOB ROTATE (HI): 20000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 12000 lbf
RPM (ROTARY): 55 rpm	DRAG UP: 138000 lbf
RPM (MOTOR): 167 rpm	DRAG DN: 105000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 8.75 in	SECTION TYPE: Build & Hold	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-4013	MODEL: QLE7850
SETTING: 1.5 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Varel	BIT TYPE: Varel PDC Bit	TYPE: VM513	MTR HRS THIS DAY: 19.166666666666666
IADC BIT GRADE: 1 / 2 / BT / N / X / I / CT / BHA			NOZZLES: 0.863 in ² TFA
			NOZZLE HRS TO DATE: 21.833333333333333

PUMP PARAMETERS

PRESSURE ON BTM: 2900	PRESSURE OFF BTM: 3500	TOTAL FLOW RATE: 598.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 26 sec/qt	WTR LOSS: 0 cc/30min	PV: 1 cP	YP: 4 lb/100 ft ²	pH: 8.6
DENSITY: 8.4 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0.1	SOLIDS: 0.4	OIL: 0	TEMP: 82 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 1235-4313

This motor is being ran to the max per Company mans request. It was explained to the the company man that running this hard on our equipment is not recommended. Parameters being ran are as followed.

GPM = 600 gpm

Diff. Pressure = 1200 psi

WOB = 45 klb

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 3 - 2012/07/04

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Pat Cain, James Johnson, Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 4321.0 ft

PROGRESS: 2395.0 ft

DAILY COST: USD\$18827.50

KB ELEV: 4974 ft

END DEPTH: 6716.0 ft

AVG. ROP.: 155.3 ft/hr

PREVIOUS COST: USD\$44668.60

TOTAL COST: USD\$63496.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:20	Rotating With Motor	0.33	4409	1	08:25-08:30	Circ & Accumulate Surveys	0.08	5642	1
00:20-00:25	Circ & Accumulate Surveys	0.08	4409	1	08:30-09:00	Rotating With Motor	0.50	5737	1
00:25-00:50	Orienting With Motor	0.42	4417	1	09:00-09:05	Circ & Accumulate Surveys	0.08	5737	1
00:50-01:15	Rotating With Motor	0.42	4503	1	09:05-09:30	Other - See Comments - Laydown bad JTs DP	0.42	5737	1
01:15-01:20	Circ & Accumulate Surveys	0.08	4503	1	09:30-09:55	Rotating With Motor	0.42	5831	1
01:20-01:35	Orienting With Motor	0.25	4508	1	09:55-10:00	Circ & Accumulate Surveys	0.08	5831	1
01:35-02:00	Rotating With Motor	0.42	4598	1	10:00-10:35	Rotating With Motor	0.58	5926	1
02:00-02:05	Circ & Accumulate Surveys	0.08	4598	1	10:35-10:40	Circ & Accumulate Surveys	0.08	5926	1
02:05-02:30	Rotating With Motor	0.42	4693	1	10:40-11:05	Rotating With Motor	0.42	6021	1
02:30-02:30	Circ & Accumulate Surveys	0.00	4693	1	11:05-11:10	Circ & Accumulate Surveys	0.08	6021	1
02:30-02:55	Rotating With Motor	0.42	4788	1	11:10-11:25	Orienting With Motor	0.25	6036	1
02:55-03:00	Circ & Accumulate Surveys	0.08	4788	1	11:25-12:00	Rotating With Motor	0.58	6116	1
03:00-03:15	Rotating With Motor	0.25	4883	1	12:00-12:05	Circ & Accumulate Surveys	0.08	6116	1
03:15-03:20	Circ & Accumulate Surveys	0.08	4883	1	12:05-12:35	Orienting With Motor	0.50	6126	1
03:20-03:40	Rotating With Motor	0.33	4978	1	12:35-13:15	Rotating With Motor	0.67	6211	1
03:40-03:45	Circ & Accumulate Surveys	0.08	4978	1	13:15-13:20	Circ & Accumulate Surveys	0.08	6211	1
03:45-04:30	Rotating With Motor	0.75	4993	1	13:20-14:10	Rotating With Motor	0.83	6306	1
04:30-05:05	Orienting With Motor	0.58	5008	1	14:10-14:15	Circ & Accumulate Surveys	0.08	6306	1
05:05-05:25	Rotating With Motor	0.33	5074	1	14:15-15:00	Rotating With Motor	0.75	6400	1
05:25-05:30	Circ & Accumulate Surveys	0.08	5074	1	15:00-15:05	Circ & Accumulate Surveys	0.08	6400	1
05:30-05:55	Rotating With Motor	0.42	5169	1	15:05-15:50	Rotating With Motor	0.75	6495	1
05:55-06:00	Circ & Accumulate Surveys	0.08	5169	1	15:50-15:55	Circ & Accumulate Surveys	0.08	6495	1
06:00-06:25	Rotating With Motor	0.42	5264	1	15:55-16:40	Rotating With Motor	0.75	6590	1
06:25-06:30	Circ & Accumulate Surveys	0.08	5264	1	16:40-16:45	Circ & Accumulate Surveys	0.08	6590	1
06:30-07:00	Rotating With Motor	0.50	5358	1	16:45-17:25	Rotating With Motor	0.67	6684	1
07:00-07:05	Circ & Accumulate Surveys	0.08	5358	1	17:25-17:30	Circ & Accumulate Surveys	0.08	6684	1
07:05-07:25	Rotating With Motor	0.33	5452	1	17:30-17:50	Rotating With Motor	0.33	6716	1
07:25-07:30	Circ & Accumulate Surveys	0.08	5452	1	17:50-17:55	Circ & Accumulate Surveys	0.08	6716	1
07:30-07:55	Rotating With Motor	0.42	5547	1	17:55-20:05	Circ & Condition Hole	2.17	6716	1
07:55-08:00	Circ & Accumulate Surveys	0.08	5547	1	20:05-24:00	POOH To Change BHA	3.92	6716	1
08:00-08:25	Rotating With Motor	0.42	5642	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 15.42	ORIENTING HRS: 2.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 13.42	MOTOR HRS: 19.67
MOTOR REAM: 0.00		TRIP: 3.92
CIRC: 4.25	ROTARY DRILL: 0.00	OTHER: 0.42
MOTOR HRS: 19.67	DRILL HRS: 15.42	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 9000 ft-lb	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 18000 lbf	WOB ROTATE (HI): 45000 lbf
WOB SLIDING (LO): 8000 lbf	WOB ROTATE (LO): 35000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 0 lbf
RPM (MOTOR): 168 rpm	DRAG DN: 0 lbf

— BHA / MOTOR / BIT INFORMATION: —

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 3 - 2012/07/04**

BHA: 1 **HOLE SIZE:** 8.75 in **SECTION TYPE:** Build & Hold **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 675-4013 **MODEL:** QLE7850 **LOBE CFG.:** 7/8
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 6 3/4" (171mm) **MTR HRS THIS DAY:** 19.666666666667 **MTR HRS TO DATE:** 41.5
MANFCT: Varel **BIT TYPE:** Varel PDC Bit **TYPE:** VM513 **NOZZLES:** 0.863 in² TFA
IADC BIT GRADE: 1 / 2 / BT / N / X / I / CT / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 3200	PRESSURE OFF BTM: 2000	TOTAL FLOW RATE: 569.66 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 156.00	LINER: 6.00 in STROKE VOL.: 3.8438 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 27 sec/qt	WTR LOSS: 30 cc/30min	PV: 1 cP	YP: 4 lb/100 ft ²	pH: 8.6
DENSITY: 8.5 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0.1	SOLIDS: 1.2	OIL: 0	TEMP: 110 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill f/ 4313 to 6716'.

TD Build & Hold Section, POOH to P/U Curve Assembly.

Drilling has been good and sliding to, other than when we started drilling into sussex right around 4400 the sliding slowed down do to the formation being so sticky.

This motor is being ran to the max per Company mans request. It was explained to the the company man that running this hard on our equipment is not recommended. Parameters being ran are as fallowed.

GPM = 600 gpm

Diff. Pressure = 1200 psi

WOB = 45 klb

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 4 - 2012/07/05

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 6716.0 ft

PROGRESS: 810.0 ft

DAILY COST: USD\$26977.50

KB ELEV: 4974 ft

END DEPTH: 7526.0 ft

AVG. ROP.: 64.4 ft/hr

PREVIOUS COST: USD\$63496.10

TOTAL COST: USD\$90473.60

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:25	Handle Directional Tools	2.42	6716	2	15:20-15:40	Orienting With Motor	0.33	7159	2
02:25-07:05	RIH	4.67	6716	2	15:40-15:55	Circ & Accumulate Surveys	0.25	7159	2
07:05-07:20	Circ & Accumulate Surveys - Check Shot	0.25	6716	2	15:55-16:10	Rotating With Motor	0.25	7168	2
07:20-07:40	Orienting With Motor	0.33	6748	2	16:10-16:20	Orienting With Motor	0.17	7190	2
07:40-07:45	Circ & Accumulate Surveys	0.08	6748	2	16:20-16:30	Circ & Accumulate Surveys	0.17	7190	2
07:45-08:20	Orienting With Motor	0.58	6779	2	16:30-16:40	Rotating With Motor	0.17	7203	2
08:20-08:30	Circ & Accumulate Surveys	0.17	6779	2	16:40-17:00	Orienting With Motor	0.33	7222	2
08:30-08:50	Orienting With Motor	0.33	6811	2	17:00-17:10	Circ & Accumulate Surveys	0.17	7222	2
08:50-09:00	Circ & Accumulate Surveys	0.17	6811	2	17:10-17:25	Orienting With Motor	0.25	7254	2
09:00-09:10	Rotating With Motor	0.17	6825	2	17:25-17:40	Circ & Accumulate Surveys	0.25	7254	2
09:10-09:35	Orienting With Motor	0.42	6843	2	17:40-17:50	Rotating With Motor	0.17	7262	2
09:35-09:45	Circ & Accumulate Surveys	0.17	6843	2	17:50-18:30	Orienting With Motor	0.67	7285	2
09:45-10:00	Rotating With Motor	0.25	6851	2	18:30-18:35	Circ & Accumulate Surveys	0.08	7285	2
10:00-10:25	Orienting With Motor	0.42	6875	2	18:35-18:40	Rotating With Motor	0.08	7290	2
10:25-10:40	Circ & Accumulate Surveys	0.25	6875	2	18:40-19:10	Orienting With Motor	0.50	7317	2
10:40-11:10	Orienting With Motor	0.50	6906	2	19:10-19:15	Circ & Accumulate Surveys	0.08	7317	2
11:10-11:15	Circ & Accumulate Surveys	0.08	6906	2	19:15-19:55	Orienting With Motor	0.67	7348	2
11:15-11:40	Orienting With Motor	0.42	6938	2	19:55-20:00	Circ & Accumulate Surveys	0.08	7348	2
11:40-11:50	Circ & Accumulate Surveys	0.17	6938	2	20:00-20:10	Rotating With Motor	0.17	7358	2
11:50-12:00	Rotating With Motor	0.17	6947	2	20:10-20:30	Orienting With Motor	0.33	7380	2
12:00-12:15	Orienting With Motor	0.25	6969	2	20:30-20:35	Circ & Accumulate Surveys	0.08	7380	2
12:15-12:30	Circ & Accumulate Surveys	0.25	6969	2	20:35-20:45	Rotating With Motor	0.17	7395	2
12:30-12:55	Orienting With Motor	0.42	7001	2	20:45-21:05	Orienting With Motor	0.33	7412	2
12:55-13:05	Circ & Accumulate Surveys	0.17	7001	2	21:05-21:10	Circ & Accumulate Surveys	0.08	7412	2
13:05-13:25	Orienting With Motor	0.33	7032	2	21:10-21:50	Orienting With Motor	0.67	7443	2
13:25-13:40	Circ & Accumulate Surveys	0.25	7032	2	21:50-21:55	Circ & Accumulate Surveys	0.08	7443	2
13:40-14:00	Orienting With Motor	0.33	7064	2	21:55-22:35	Orienting With Motor	0.67	7475	2
14:00-14:20	Circ & Accumulate Surveys	0.33	7064	2	22:35-22:40	Circ & Accumulate Surveys	0.08	7475	2
14:20-14:45	Orienting With Motor	0.42	7096	2	22:40-23:05	Rotating With Motor	0.42	7506	2
14:45-14:55	Circ & Accumulate Surveys	0.17	7096	2	23:05-23:10	Circ & Accumulate Surveys	0.08	7506	2
14:55-15:10	Orienting With Motor	0.25	7127	2	23:10-23:20	Gamma Rerun	0.17	7506	2
15:10-15:20	Circ & Accumulate Surveys	0.17	7127	2	23:20-24:00	Orienting With Motor	0.67	7526	2

TIME SUMMARY (hrs):

MOTOR DRILL: 12.58	ORIENTING HRS: 10.58	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 2.00	MOTOR HRS: 16.75
MOTOR REAM: 0.00		TRIP: 4.67
CIRC: 4.17	ROTARY DRILL: 0.00	OTHER: 2.58
MOTOR HRS: 16.75	DRILL HRS: 12.58	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 5000 ft-lb	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 15000 lbf	WOB ROTATE (HI): 15000 lbf
WOB SLIDING (LO): 10000 lbf	WOB ROTATE (LO): 10000 lbf
RPM (ROTARY): 30 rpm	DRAG UP: 0 lbf
RPM (MOTOR): 167 rpm	DRAG DN: 0 lbf

— BHA / MOTOR / BIT INFORMATION: —

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 4 - 2012/07/05**

BHA: 2 **HOLE SIZE:** 8.75 in **SECTION TYPE:** Curve **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 675-0994 **MODEL:** QLE7850 **LOBE CFG.:** 7/8
SETTING: 2.25 ° **KICKPAD:** 8.10 **SIZE:** 6 3/4" (171mm) **MTR HRS THIS DAY:** 16.75 **MTR HRS TO DATE:** 16.75
MANFCT: Security **BIT TYPE:** PDC Bit Security **TYPE:** FXd54 **NOZZLES:** 1.011 in² TFA
IADC BIT GRADE: 1 / 2 / CT / G / X / I / FC / TD

PUMP PARAMETERS

PRESSURE ON BTM: 3000		PRESSURE OFF BTM: 2500		TOTAL FLOW RATE: 569.66 gal/min	
PUMP 1:	TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
PUMP 2:	TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 36 sec/qt	WTR LOSS: 8.9 cc/30min	PV: 7 cP	YP: 5 lb/100 ft ²	pH: 9
DENSITY: 9 lb/gal	GEL 0/10: 2.00 lb/100 ft ²	SAND: 0.3	SOLIDS: 4	OIL: 0	TEMP: 156 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

RIH

DRILL AHEAD IN BUILD SECTION F/6716 - 7526

TARGET TVD CHANGED TO 7361'

Target TVD Changed to 7324' @ 90 deg.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 5 - 2012/07/06

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 7526.0 ft

PROGRESS: 223.0 ft

DAILY COST: USD\$21077.50

KB ELEV: 4974 ft

END DEPTH: 7749.0 ft

AVG. ROP.: 47.0 ft/hr

PREVIOUS COST: USD\$90473.60

TOTAL COST: USD\$111551.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:25	Orienting With Motor	0.42	7538	2	03:10-03:40	Orienting With Motor	0.50	7664	2
00:25-00:30	Circ & Accumulate Surveys	0.08	7538	2	03:40-03:45	Circ & Accumulate Surveys	0.08	7664	2
00:30-00:50	Rig Service	0.33	7538	2	03:45-04:10	Rotating With Motor	0.42	7696	2
00:50-01:00	Rotating With Motor	0.17	7543	2	04:10-04:15	Circ & Accumulate Surveys	0.08	7696	2
01:00-01:30	Orienting With Motor	0.50	7569	2	04:15-04:50	Orienting With Motor	0.58	7728	2
01:30-01:35	Circ & Accumulate Surveys	0.08	7569	2	04:50-04:55	Circ & Accumulate Surveys	0.08	7728	2
01:35-02:30	Orienting With Motor	0.92	7601	2	04:55-05:40	Orienting With Motor	0.75	7749	2
02:30-02:35	Circ & Accumulate Surveys	0.08	7601	2	05:40-05:50	Circ & Accumulate Surveys	0.17	7749	2
02:35-02:55	Orienting With Motor	0.33	7627	2	05:50-07:40	Circ & Condition Hole	1.83	7749	2
02:55-03:05	Rotating With Motor	0.17	7633	2	07:40-13:45	POOH To Run Casing	6.08	7749	2
03:05-03:10	Circ & Accumulate Surveys	0.08	7633	2	13:45-24:00	Wait On Orders	10.25	7749	n/a

TIME SUMMARY (hrs):

MOTOR DRILL:	4.75	ORIENTING HRS:	4.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	4800 ft-lb	STRING WEIGHT	144000 lbs
TIME DRILL:	0.00	ROTATING HRS:	0.75	MOTOR HRS:	7.33	WOB SLIDING (HI):	30000 lbf	WOB ROTATE (HI):	25000 lbf
MOTOR REAM:	0.00			TRIP:	6.08	WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	15000 lbf
CIRC:	2.58	ROTARY DRILL:	0.00	OTHER:	10.58	RPM (ROTARY):	25 rpm	DRAG UP:	194000 lbf
MOTOR HRS:	7.33	DRILL HRS:	4.75	TOTAL HRS:	24.00	RPM (MOTOR):	167 rpm	DRAG DN:	122000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-0994	MODEL: QLE7850
SETTING: 2.25 °	KICKPAD: 8.10	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: PDC Bit Security	TYPE: FXd54	MTR HRS THIS DAY: 7.333333333333333
IADC BIT GRADE: 1 / 2 / CT / G / X / I / FC / TD			MTR HRS TO DATE: 24.08333333333333
			NOZZLES: 1.011 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3400	PRESSURE OFF BTM: 3100	TOTAL FLOW RATE: 598.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem	VISC: 39 sec/qt	WTR LOSS: 8 cc/30min	PV: 7 cP	YP: 5 lb/100 ft²	pH: 9
DENSITY: 9.8 lb/gal	GEL 0/10: 2.00 lb/100 ft²	SAND: 0.01	SOLIDS: 7.1	OIL: 2	TEMP: 177 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 7526' to 7749' T.D.

Circ & Condition Hole

POOH to Run Casing.



Daily Activity Report

Day 5 - 2012/07/06

Drilling Services
v4.2.2674

Target TVD was changed twice through this curve. We landed 1' below last suggested target TVD of 7324'

All formations drilled as expected. We did not get the build rates we expected to get although they were enough to land this curve according to plan. Also we fought the direction the entire curve. This section of the hole was pulling us hard to the east. We slid 90L as well as HS to build & maintain hole direction.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 6 - 2012/07/07

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 7749.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$33230.00

KB ELEV: 4974 ft

END DEPTH: 7749.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$111551.10

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$144781.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-17:15	Wait On Orders	17.25	7749	n/a	20:40-20:55	Other - See Comments - pick up source	0.25	7749	3
17:15-18:50	PU Directional Tools	1.58	7749	3	20:55-21:35	RIH	0.67	7749	3
18:50-20:25	Other - See Comments - Program LWD tool	1.58	7749	3	21:35-21:45	Shallow Test Tools	0.17	7749	3
20:25-20:40	Other - See Comments - S/M on PU source	0.25	7749	3	21:45-24:00	RIH	2.25	7749	3

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 2.92
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 21.08
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-1287	MODEL: ME6770
SETTING: 1.5 °	KICKPAD: No	SIZE: 5" (127mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 1 / CT / A / X / I / WT / DTF			MTR HRS TO DATE: 0
			NOZZLES: 0.61 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem	VISC: 39 sec/qt	WTR LOSS: 6 cc/30min	PV: 14 cP	YP: 10 lb/100 ft ²	pH: 8.8
DENSITY: 10 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.5	SOLIDS: 8.2	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Wait On Orders

Run Casing & Cement

P/U Lateral BHA

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 7 - 2012/07/08****FILE #:** 4026335**WELL NAME:** Camp 24C-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** HEL LWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Brian Trani, Stephen Schear**MWD Supervisor:** Jett Hunter, Jon Leger**MWD Trainee:** James Asher**Company Man:** Doug Barone, Doug Blair**GROUND ELEV:** 4949 ft**START DEPTH:** 7749.0 ft**PROGRESS:** 1288.0 ft**DAILY COST:** USD\$24550.00**KB ELEV:** 4974 ft**END DEPTH:** 9037.0 ft**AVG. ROP.:** 88.8 ft/hr**PREVIOUS COST:** USD\$144781.10**TOTAL COST:** USD\$169331.10**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Trip In	1.50	7749	3	10:20-10:45	Rotating With Motor	0.42	8302	3
01:30-02:30	Drill Out Flt, Shoe & Cmmt	1.00	7749	3	10:45-10:50	Circ & Accumulate Surveys	0.08	8302	3
02:30-03:10	Rotating With Motor	0.67	7756	3	10:50-11:15	Rotating With Motor	0.42	8332	3
03:10-03:15	Orienting With Motor	0.08	7768	3	11:15-11:20	Circ & Accumulate Surveys	0.08	8332	3
03:15-03:25	Rotating With Motor	0.17	7786	3	11:20-11:30	Orienting With Motor	0.17	8347	3
03:25-03:30	Circ & Accumulate Surveys	0.08	7786	3	11:30-11:50	Rotating With Motor	0.33	8362	3
03:30-03:40	Orienting With Motor	0.17	7796	3	11:50-11:55	Circ & Accumulate Surveys	0.08	8362	3
03:40-03:50	Rotating With Motor	0.17	7815	3	11:55-12:00	Orienting With Motor	0.08	8377	3
03:50-03:55	Circ & Accumulate Surveys	0.08	7815	3	12:00-12:15	Rotating With Motor	0.25	8393	3
03:55-04:10	Rotating With Motor	0.25	7845	3	12:15-12:20	Circ & Accumulate Surveys	0.08	8393	3
04:10-04:15	Circ & Accumulate Surveys	0.08	7845	3	12:20-12:40	Rotating With Motor	0.33	8423	3
04:15-04:35	Orienting With Motor	0.33	7865	3	12:40-12:45	Circ & Accumulate Surveys	0.08	8423	3
04:35-04:50	Rotating With Motor	0.25	7876	3	12:45-13:00	Rotating With Motor	0.25	8453	3
04:50-04:55	Circ & Accumulate Surveys	0.08	7876	3	13:00-13:10	Circ & Accumulate Surveys	0.17	8453	3
04:55-05:10	Rotating With Motor	0.25	7906	3	13:10-13:30	Orienting With Motor	0.33	8484	3
05:10-05:15	Circ & Accumulate Surveys	0.08	7906	3	13:30-13:40	Circ & Accumulate Surveys	0.17	8484	3
05:15-05:30	Rotating With Motor	0.25	7937	3	13:40-13:50	Rotating With Motor	0.17	8499	3
05:30-05:35	Circ & Accumulate Surveys	0.08	7937	3	13:50-14:00	Orienting With Motor	0.17	8515	3
05:35-05:50	Rotating With Motor	0.25	7967	3	14:00-14:05	Circ & Accumulate Surveys	0.08	8515	3
05:50-05:55	Circ & Accumulate Surveys	0.08	7967	3	14:05-14:25	Rotating With Motor	0.33	8545	3
05:55-06:10	Orienting With Motor	0.25	7985	3	14:25-14:35	Circ & Accumulate Surveys	0.17	8545	3
06:10-06:30	Rotating With Motor	0.33	7985	3	14:35-15:05	Orienting With Motor	0.50	8576	3
06:30-06:35	Circ & Accumulate Surveys	0.08	7985	3	15:05-16:10	Circ & Condition Hole	1.08	8576	3
06:35-07:00	Rotating With Motor	0.42	8029	3	16:10-17:10	POOH - See Comments - 9 stands	1.00	8576	3
07:00-07:05	Circ & Accumulate Surveys	0.08	8029	3	17:10-18:30	RIH - See Comments - 27 singles	1.33	8576	3
07:05-07:20	Rotating With Motor	0.25	8059	3	18:30-18:35	Circ & Accumulate Surveys	0.08	8576	3
07:20-07:25	Circ & Accumulate Surveys - Check Shot P/U Sing.	0.08	8059	3	18:35-18:40	Rotating With Motor	0.08	8580	3
07:25-07:35	Rotating With Motor	0.17	8089	3	18:40-19:15	Orienting With Motor	0.58	8620	3
07:35-07:55	Circ & Accumulate Surveys	0.33	8089	3	19:15-19:30	Rotating With Motor	0.25	8668	3
07:55-08:05	Orienting With Motor	0.17	8104	3	19:30-19:40	Circ & Accumulate Surveys	0.17	8668	3
08:05-08:30	Rotating With Motor	0.42	8120	3	19:40-20:20	Orienting With Motor	0.67	8703	3
08:30-08:35	Circ & Accumulate Surveys - Check Shot P/U Sing	0.08	8120	3	20:20-20:40	Rotating With Motor	0.33	8760	3
08:35-09:00	Rotating With Motor	0.42	8150	3	20:40-20:50	Circ & Accumulate Surveys	0.17	8760	3
09:00-09:05	Circ & Accumulate Surveys	0.08	8150	3	20:50-21:25	Rotating With Motor	0.58	8852	3
09:05-09:20	Rotating With Motor	0.25	8181	3	21:25-21:30	Circ & Accumulate Surveys	0.08	8852	3
09:20-09:25	Circ & Accumulate Surveys	0.08	8181	3	21:30-21:55	Orienting With Motor	0.42	8872	3
09:25-09:30	Rotating With Motor	0.08	8211	3	21:55-22:20	Rotating With Motor	0.42	8945	3
09:30-09:35	Circ & Accumulate Surveys	0.08	8211	3	22:20-22:25	Circ & Accumulate Surveys	0.08	8945	3
09:35-09:45	Rotating With Motor	0.17	8241	3	22:25-23:40	Rotating With Motor	1.25	9037	3

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 7 - 2012/07/08**

09:45-09:50	Circ & Accumulate Surveys	0.08	8241	3	23:40-23:50	Circ & Accumulate Surveys	0.17	9037	3
09:50-10:15	Rotating With Motor	0.42	8272	3	23:50-24:00	Circulating	0.17	9037	3
10:15-10:20	Circ & Accumulate Surveys	0.08	8272	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 14.50
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 5.67
MOTOR HRS: 20.17

ORIENTING HRS: 3.92
ROTATING HRS: 10.58
ROTARY DRILL: 0.00
ROTARY DRILL: 0.00
DRILL HRS: 14.50

ROTARY DRILL: 0.00
MOTOR HRS: 20.17
TRIP: 3.83
OTHER: 0.00
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 9000 ft-lb
WOB SLIDING (HI): 15000 lbf
WOB SLIDING (LO): 10000 lbf
RPM (ROTARY): 60 rpm
RPM (MOTOR): 245 rpm

STRING WEIGHT 0 lbs
WOB ROTATE (HI): 20000 lbf
WOB ROTATE (LO): 15000 lbf
DRAG UP: 0 lbf
DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3 **HOLE SIZE:** 6.125 in **SECTION TYPE:** Lateral 1 **SURVEY TYPE:** HEL LWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 475-1287 **MODEL:** ME6770 **LOBE CFG.:** 6/7
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 5" (127mm) **MTR HRS THIS DAY:** 20.166666666666666 **MTR HRS TO DATE:** 20.166666666666666
MANFCT: Security **BIT TYPE:** Security PDC Bit **TYPE:** FXD54 **NOZZLES:** 0.61 in² TFA
IADC BIT GRADE: 1 / 1 / CT / A / X / I / WT / DTF

PUMP PARAMETERS

PRESSURE ON BTM: 3000 **PRESSURE OFF BTM:** 2500 **TOTAL FLOW RATE:** 284.83 gal/min

PUMP 1: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 78.00 **LINER:** 6.00 in **STROKE VOL.:** 3.8438 gal/stk
PUMP 2: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk
PUMP 3: TYPE: **EFF.:** 100.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem **VISC:** 38 sec/qt **WTR LOSS:** 6.2 cc/30min **PV:** 13 cP **YP:** 6 lb/100 ft² **pH:** 10
DENSITY: 9.9 lb/gal **GEL 0/10:** 3.00 lb/100 ft² **SAND:** 0.5 **SOLIDS:** 7.9 **OIL:** 2 **TEMP:** 140 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

Target change given prior to drilling out shoe. Change stated as " 7315' TVD @ O' V.S. with 90 deg INC" This is 10 ft higher in TVD than the projected TVD at shoe. Target window 3' below, and 5' above. *Company reps. asked that we bring assy. up gradually and avoid high doglegs. Initial slides were set prior to getting first survey in order to insure azm. was straightened out. Direction was corrected easily within first 100ft out of 7 inch casing shoe. *At first rig was picking up single joints of 4 inch HWDP. This made drilling slow as survey had to clear cycle at each and every connection before drilling to avoid gaps in the MWD log. Decision was made to go ahead and make up full stands of HWDP before continuing to drill. This proved helpful not only from a time perspective but also helped in maintaining angle necessary to come up to new target TVD.

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 8 - 2012/07/09

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft	START DEPTH: 9037.0 ft	PROGRESS: 184.0 ft	DAILY COST: USD\$24550.00
KB ELEV: 4974 ft	END DEPTH: 9221.0 ft	AVG. ROP.: 81.1 ft/hr	PREVIOUS COST: USD\$169331.10
WORK STATUS: Operating (All units are imperial.)			TOTAL COST: USD\$193881.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:35	Orienting With Motor	0.58	9037	3	12:30-14:35	Other - See Comments - Work on LWD tools	2.08	9156	n/a
00:35-01:30	Rotating With Motor	0.92	9129	3	14:35-15:20	Handle Directional Tools - pick up tools	0.75	9156	4
01:30-01:35	Circ & Accumulate Surveys	0.08	9129	3	15:20-17:15	Other - See Comments - programm lwd tools	1.92	9156	4
01:35-02:00	Rotating With Motor	0.42	9156	3	17:15-17:30	Other - See Comments - S/M on source PU	0.25	9156	4
02:00-02:35	Circulating - Troubleshoot MWD	0.58	9156	3	17:30-17:45	Other - See Comments - pick up source	0.25	9156	4
02:35-04:30	Circulating - See Comments - Pump Sweep	1.92	9156	3	17:45-22:00	RIH	4.25	9156	4
04:30-09:20	POOH For MWD	4.83	9156	3	22:00-22:25	Circ & Accumulate Surveys - Test MWD,	0.42	9156	4
09:20-09:30	Safety Meeting - JSA	0.17	9156	n/a	22:25-22:46	Rotating With Motor	0.35	9221	4
09:30-11:30	Handle Directional Tools - Plug in-Download MWD	2.00	9156	n/a	22:46-23:01	Circ & Accumulate Surveys - No data from tool.	0.25	9221	4
11:30-12:30	Lay Down Directional Tools	1.00	9156	n/a	23:01-24:00	Circulating - See Comments - Pump Sweep	0.98	9221	4

TIME SUMMARY (hrs):

MOTOR DRILL: 2.27	ORIENTING HRS: 0.58	ROTARY DRILL: 0.00	ROTARY TORQUE: 9500 ft-lb	STRING WEIGHT: 138000 lbs
TIME DRILL: 0.00	ROTATING HRS: 1.33	MOTOR HRS: 6.50	WOB SLIDING (HI): 55000 lbf	WOB ROTATE (HI): 24000 lbf
MOTOR REAM: 0.00	TRIP: 9.08	WOB SLIDING (LO): 15000 lbf	WOB ROTATE (LO): 10000 lbf	
CIRC: 4.23	ROTARY DRILL: 0.00	OTHER: 8.42	RPM (ROTARY): 55 rpm	DRAG UP: 194000 lbf
MOTOR HRS: 6.50	DRILL HRS: 2.27	TOTAL HRS: 24.00	RPM (MOTOR): 245 rpm	DRAG DN: 108000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-1287	MODEL: ME6770
SETTING: 1.5 °	KICKPAD: No	SIZE: 5" (127mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 4.5
IADC BIT GRADE: 1 / 1 / CT / A / X / I / WT / DTF			MTR HRS TO DATE: 24.666666666666666

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 2
IADC BIT GRADE: 1 / 2 / CT / A / X / I / WT / DTF			MTR HRS TO DATE: 2

PUMP PARAMETERS

PRESSURE ON BTM: 4400	PRESSURE OFF BTM: 3400	TOTAL FLOW RATE: 284.83 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 39.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 39.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer	VISC: 38 sec/qt	WTR LOSS: 6.2 cc/30min	PV: 38 cP	YP: 13 lb/100 ft²	pH: 10
DENSITY: 9.9 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.5	SOLIDS: 7.9	OIL: 0	TEMP: 125 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 8 - 2012/07/09

COMMENTS:

Trip for MWD failure. Changed out flow diverter and interconnect on MWD once on surface. Changed out mud motor. RIH, MWD functioned properly first 62 ft, then quit sending info although it kept pulsing. Circulated sweep just before midnight before TOOH for failure.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 9 - 2012/07/10

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Stephen Schear, Josh Monroe

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 9221.0 ft

PROGRESS: 279.0 ft

DAILY COST: USD\$30180.00

KB ELEV: 4974 ft

END DEPTH: 9500.0 ft

AVG. ROP.: -12.8 ft/hr

PREVIOUS COST: USD\$193881.10

TOTAL COST: USD\$224061.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Circulating - See Comments - High Vis Sweep	1.50	9221	4	17:05-17:30	Shallow Test Tools	0.42	9221	5
01:30-05:25	POOH For MWD	3.92	9221	4	17:30-21:35	RIH With Directional	4.08	9221	5
05:25-05:50	Other - See Comments - S/M pull source	0.42	9221	4	21:35-21:40	Circ & Accumulate Surveys	0.08	9221	5
05:50-08:20	Other - See Comments - TROUBLE SHOOT LWD	2.50	9221	4	21:40-22:00	Orienting With Motor	0.33	9241	5
08:20-09:25	Lay Down Directional Tools	1.08	9221	n/a	22:00-22:30	Rotating With Motor	0.50	9313	5
09:25-14:40	Other - See Comments - Rebuild LWD tools	5.25	9221	n/a	22:30-22:35	Circ & Accumulate Surveys	0.08	9313	5
14:40-15:30	PU Directional Tools	0.83	9221	5	22:35-22:50	Orienting With Motor	0.25	9328	5
15:30-16:10	Other - See Comments - Programme LWD tools	0.67	9221	5	22:50-23:20	Rotating With Motor	0.50	9405	5
16:10-16:40	Other - See Comments - S/M Load Source	0.50	9221	5	23:20-23:25	Circ & Accumulate Surveys	0.08	9405	5
16:40-17:05	RIH With Directional	0.42	9221	5	23:25-00:00	Rotating With Motor	-23.42	9500	5

TIME SUMMARY (hrs):

MOTOR DRILL: -21.83	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00	ROTARY TORQUE: 9500 ft-lb	STRING WEIGHT 141000 lbs
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: -20.08	WOB SLIDING (HI): 20000 lbf	WOB ROTATE (HI): 18000 lbf
MOTOR REAM: 0.00		TRIP: 8.42	WOB SLIDING (LO): 10000 lbf	WOB ROTATE (LO): 10000 lbf
CIRC: 1.75	ROTARY DRILL: 0.00	OTHER: 11.67	RPM (ROTARY): 55 rpm	DRAG UP: 202000 lbf
MOTOR HRS: -20.08	DRILL HRS: -21.83	TOTAL HRS: 0.00	RPM (MOTOR): 245 rpm	DRAG DN: 102000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 1.5
IADC BIT GRADE: 1 / 2 / CT / A / X / I / WT / DTF			NOZZLES: 0.61 in² TFA
			MTR HRS TO DATE: 3.5

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: -21.58333333
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			MTR HRS TO DATE: -18.08333333

PUMP PARAMETERS

PRESSURE ON BTM: 4000	PRESSURE OFF BTM: 3400	TOTAL FLOW RATE: 292.13 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 80.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer	VISC: 36 sec/qt	WTR LOSS: 5.8 cc/30min	PV: 12 cP	YP: 5 lb/100 ft²	pH: 9
DENSITY: 9.9 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.5	SOLIDS: 8	OIL: 0	TEMP: 120 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



— **COMMENTS:** _____

Pulled BHA for MWD. Connection flooded on logging tools. No issues with MWD once back on bottom.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 10 - 2012/07/11

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 9500.0 ft

PROGRESS: 1901.0 ft

DAILY COST: USD\$24550.00

KB ELEV: 4974 ft

END DEPTH: 11401.0 ft

AVG. ROP.: 120.1 ft/hr

PREVIOUS COST: USD\$224061.10

TOTAL COST: USD\$248611.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:20	Rig Service	0.33	9500	5	09:45-10:35	Orienting With Motor	0.83	10575	5
00:20-00:25	Circ & Accumulate Surveys	0.08	9500	5	10:35-11:00	Rotating With Motor	0.42	10640	5
00:25-00:45	Orienting With Motor	0.33	9512	5	11:00-11:05	Circ & Accumulate Surveys	0.08	10640	5
00:45-01:15	Rotating With Motor	0.50	9595	5	11:05-11:30	Orienting With Motor	0.42	10665	5
01:15-01:20	Circ & Accumulate Surveys	0.08	9595	5	11:30-11:50	Rotating With Motor	0.33	10736	5
01:20-02:00	Rotating With Motor	0.67	9689	5	11:50-11:55	Circ & Accumulate Surveys	0.08	10736	5
02:00-02:05	Circ & Accumulate Surveys	0.08	9689	5	11:55-12:20	Orienting With Motor	0.42	10751	5
02:05-02:40	Rotating With Motor	0.58	9785	5	12:20-12:40	Rotating With Motor	0.33	10831	5
02:40-02:45	Circ & Accumulate Surveys	0.08	9785	5	12:40-12:45	Circ & Accumulate Surveys	0.08	10831	5
02:45-03:10	Orienting With Motor	0.42	9803	5	12:45-13:10	Orienting With Motor	0.42	10846	5
03:10-03:40	Rotating With Motor	0.50	9803	5	13:10-13:35	Rotating With Motor	0.42	10926	5
03:40-03:45	Circ & Accumulate Surveys	0.08	9803	5	13:35-13:40	Circ & Accumulate Surveys	0.08	10926	5
03:45-04:30	Rotating With Motor	0.75	9974	5	13:40-14:05	Rotating With Motor	0.42	11021	5
04:30-04:35	Circ & Accumulate Surveys	0.08	9974	5	14:05-14:10	Circ & Accumulate Surveys	0.08	11021	5
04:35-05:05	Orienting With Motor	0.50	9994	5	14:10-14:50	Orienting With Motor	0.67	11051	5
05:05-05:45	Rotating With Motor	0.67	10069	5	14:50-15:15	Rotating With Motor	0.42	11116	5
05:45-05:50	Circ & Accumulate Surveys	0.08	10069	5	15:15-15:20	Circ & Accumulate Surveys	0.08	11116	5
05:50-06:40	Orienting With Motor	0.83	10093	5	15:20-15:40	Rotating With Motor	0.33	11212	5
06:40-07:10	Rotating With Motor	0.50	10165	5	15:40-15:45	Circ & Accumulate Surveys	0.08	11212	5
07:10-07:15	Circ & Accumulate Surveys	0.08	10165	5	15:45-16:30	Orienting With Motor	0.75	11252	5
07:15-07:45	Rotating With Motor	0.50	10260	5	16:30-16:50	Rotating With Motor	0.33	11307	5
07:45-07:50	Circ & Accumulate Surveys	0.08	10260	5	16:50-16:55	Circ & Accumulate Surveys	0.08	11307	5
07:50-08:25	Orienting With Motor	0.58	10295	5	16:55-17:10	Rotating With Motor	0.25	11329	5
08:25-08:45	Rotating With Motor	0.33	10355	5	17:10-17:35	Orienting With Motor	0.42	11359	5
08:45-08:50	Circ & Accumulate Surveys	0.08	10355	5	17:35-17:50	Rotating With Motor	0.25	11401	5
08:50-09:15	Rotating With Motor	0.42	10450	5	17:50-18:00	Circ & Accumulate Surveys	0.17	11401	5
09:15-09:20	Circ & Accumulate Surveys	0.08	10450	5	18:00-18:30	Flow Check	0.50	11401	5
09:20-09:40	Rotating With Motor	0.33	10545	5	18:30-00:00	Wiper Trip - Trip30Stnds, PUSngls	-18.50	11401	5
09:40-09:45	Circ & Accumulate Surveys	0.08	10545	5			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	15.83	ORIENTING HRS:	6.58
TIME DRILL:	0.00	ROTATING HRS:	9.25
MOTOR REAM:	0.00		
CIRC:	1.83	ROTARY DRILL:	0.00
MOTOR HRS:	17.67	DRILL HRS:	15.83

ROTARY DRILL:	0.00
MOTOR HRS:	17.67
TRIP:	-18.50
OTHER:	0.83
TOTAL HRS:	0.00

DRILLING PARAMETERS:

ROTARY TORQUE:	11000 ft-lb	STRING WEIGHT	150000 lbs
WOB SLIDING (HI):	42000 lbf	WOB ROTATE (HI):	30000 lbf
WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	12000 lbf
RPM (ROTARY):	60 rpm	DRAG UP:	210000 lbf
RPM (MOTOR):	245 rpm	DRAG DN:	110000 lbf

— BHA / MOTOR / BIT INFORMATION: —

**Weatherford**

Daily Activity Report

Drilling Services
v4.2.2674

Day 10 - 2012/07/11

BHA: 5 HOLE SIZE: 6.125 in SECTION TYPE: Lateral 1 SURVEY TYPE: HEL LWD
 MANFCT.: Weatherford STABILIZER: No SERIAL#: 475-41087 MODEL: ME6760 LOBE CFG.: 6/7
 SETTING: 1.5 ° KICKPAD: No SIZE: 4 3/4" (121mm) MTR HRS THIS DAY: 17.666666666666667 MTR HRS TO DATE: -0.41666666666666666
 MANFCT: Security BIT TYPE: Security PDC Bit TYPE: FXD54 NOZZLES: 0.61 in² TFA
 IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 4800		PRESSURE OFF BTM: 4100		TOTAL FLOW RATE: 292.13 gal/min	
PUMP 1:	TYPE: PZ-11	EFF.: 95.0%	SPM: 80.00	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
PUMP 2:	TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer	VISC: 37 sec/qt	WTR LOSS: 6 cc/30min	PV: 10 cP	YP: 6 lb/100 ft ²	pH: 9
DENSITY: 9.8 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.5	SOLIDS: 7.5	OIL: 0	TEMP: 110 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drilled ahead to 11,401 MD. Pulled out 30 stands to PU singles for remaining lateral. Target change given aprox 18:30 PM to bring TVD up 10ft from 7315 to 7305TVD.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Day 11 - 2012/07/12

Drilling Services
v4.2.2674

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 11401.0 ft

PROGRESS: 1109.0 ft

DAILY COST: USD\$24550.00

KB ELEV: 4974 ft

END DEPTH: 12510.0 ft

AVG. ROP.: 54.8 ft/hr

PREVIOUS COST: USD\$248611.10

TOTAL COST: USD\$273161.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:15	RIH	1.25	11401	5	11:50-12:35	Orienting With Motor	0.75	12095	5
01:15-01:25	Rotating With Motor	0.17	11432	5	12:35-13:30	Rotating With Motor	0.92	12160	5
01:25-01:40	Wash To Bottom - MAD Pass MWD Data	0.25	11432	5	13:30-13:35	Circ & Accumulate Surveys	0.08	12160	5
01:40-02:45	Rotating With Motor	1.08	11496	5	13:35-13:45	Rotating With Motor	0.17	12165	5
02:45-02:50	Circ & Accumulate Surveys	0.08	11496	5	13:45-15:00	Orienting With Motor	1.25	12190	5
02:50-03:30	Orienting With Motor	0.67	11514	5	15:00-15:20	Rotating With Motor	0.33	12224	5
03:30-05:00	Rotating With Motor	1.50	11591	5	15:20-16:00	Orienting With Motor	0.67	12234	5
05:00-05:05	Circ & Accumulate Surveys	0.08	11591	5	16:00-16:20	Rotating With Motor	0.33	12256	5
05:05-05:50	Orienting With Motor	0.75	11615	5	16:20-16:25	Circ & Accumulate Surveys	0.08	12256	5
05:50-06:25	Rotating With Motor	0.58	11686	5	16:25-16:30	Rotating With Motor	0.08	12261	5
06:25-06:35	Circ & Accumulate Surveys	0.17	11686	5	16:30-17:30	Orienting With Motor	1.00	12280	5
06:35-07:45	Rotating With Motor	1.17	11781	5	17:30-18:10	Rotating With Motor	0.67	12350	5
07:45-07:50	Circ & Accumulate Surveys	0.08	11781	5	18:10-18:15	Circ & Accumulate Surveys	0.08	12350	5
07:50-09:00	Rotating With Motor	1.17	11875	5	18:15-18:35	Rotary Drill	0.33	12365	5
09:00-09:05	Circ & Accumulate Surveys	0.08	11875	5	18:35-19:15	Orienting With Motor	0.67	12380	5
09:05-09:10	Rotating With Motor	0.08	11880	5	19:15-20:20	Rotating With Motor	1.08	12445	5
09:10-09:35	Orienting With Motor	0.42	11888	5	20:20-20:25	Circ & Accumulate Surveys	0.08	12445	5
09:35-10:20	Rotating With Motor	0.75	11970	5	20:25-20:40	Rotating With Motor	0.25	12460	5
10:20-10:30	Circ & Accumulate Surveys	0.17	11970	5	20:40-21:40	Orienting With Motor	1.00	12470	5
10:30-10:35	Rotating With Motor	0.08	11970	5	21:40-22:40	Rig Service - Pump Service	1.00	12470	5
10:35-10:50	Orienting With Motor	0.25	11980	5	22:40-23:00	Rotary Drill - Rot 5ft, Work pipe	0.33	12475	5
10:50-11:40	Rotating With Motor	0.83	12065	5	23:00-23:40	Orienting With Motor	0.67	12490	5
11:40-11:45	Circ & Accumulate Surveys	0.08	12065	5	23:40-23:50	Circulating - Sweep	0.17	12490	5
11:45-11:50	Rotating With Motor	0.08	12075	5	23:50-24:00	Rotating With Motor	0.17	12510	5

TIME SUMMARY (hrs):

MOTOR DRILL: 19.58	ORIENTING HRS: 8.08	ROTARY DRILL: 0.67
TIME DRILL: 0.00	ROTATING HRS: 11.50	MOTOR HRS: 21.08
MOTOR REAM: 0.00	TRIP: 1.25	
CIRC: 1.50	ROTARY DRILL: 0.67	OTHER: 1.00
MOTOR HRS: 21.08	DRILL HRS: 20.25	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 13000 ft-lb	STRING WEIGHT 140000 lbs
WOB SLIDING (HI): 40000 lbf	WOB ROTATE (HI): 25000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 230000 lbf
RPM (MOTOR): 245 rpm	DRAG DN: 65000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 21.08333333
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			MTR HRS TO DATE: 20.666666666666
			NOZZLES: 0.61 in ² TFA

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 11 - 2012/07/12

PUMP PARAMETERS

PRESSURE ON BTM: 0**PRESSURE OFF BTM: 0****TOTAL FLOW RATE: 307.00 gal/min****PUMP 1: TYPE: PZ-11****EFF.: 95.0%****SPM: 80.00****LINER: 6.00 in****STROKE VOL.: 3.8438 gal/stk****PUMP 2: TYPE: PZ-11****EFF.: 95.0%****SPM: 0.00****LINER: 0.00 in****STROKE VOL.: 0.0000 gal/stk****PUMP 3: TYPE:****EFF.: 100.0%****SPM: 0.00****LINER: 0.00 in****STROKE VOL.: 0.0000 gal/stk**

MUD RECORD

MUD TYPE: Polymer**VISC: 40 sec/qt****WTR LOSS: 5.8 cc/30min****PV: 17 cP****YP: 12 lb/100 ft² pH: 8.6****DENSITY: 9.9 lb/gal****GEL 0/10: 5.00 lb/100 ft²****SAND: 0****SOLIDS: 0****OIL: 0****TEMP: 242 °F****LIQUID BASE: Water****LIQUID RATE: 0 gal/min****GAS TYPE:****GAS RATE: 0 cu ft/min**

COMMENTS:

New target 7305 TVD @ 90 INC (7300-7308 TVD).

Drill F/ 11,401 To 12,510 MD. Left walk necessitated hard right slides at aprox 12,400 MD. Oscillator set at 30 RPMs with up to four revolutions and continued sweeps did little for getting weight transferred to bit while sliding. Continued problems with weight stacking and subsequently stalling motor deteriorated slide quality. Plan forward for start of 07/13, midnight, is to sweep hole aggressively and continue to slide for direction so as to bring us back to line and in good position to pass by Muleberg and Salt water Disposal wells at around 13,000 MD.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 12 - 2012/07/13

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani

MWD Supervisor: Jett Hunter, Jon Leger

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 12510.0 ft

PROGRESS: 666.0 ft

DAILY COST: USD\$24550.00

KB ELEV: 4974 ft

END DEPTH: 13176.0 ft

AVG. ROP.: 31.0 ft/hr

PREVIOUS COST: USD\$273161.10

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$297711.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:45	Rotating With Motor	0.75	12539	5	12:35-12:40	Rotating With Motor	0.08	12829	5
00:45-00:50	Circ & Accumulate Surveys	0.08	12539	5	12:40-13:30	Orienting With Motor	0.83	12834	5
00:50-01:00	Rotating With Motor	0.17	12549	5	13:30-13:55	Rotating With Motor	0.42	12856	5
01:00-02:45	Orienting With Motor	1.75	12579	5	13:55-14:05	Circ & Accumulate Surveys - check shot	0.17	12856	5
02:45-03:10	Rotating With Motor	0.42	12634	5	14:05-14:40	Rotating With Motor	0.58	12919	5
03:10-03:30	Circulating - MAD Pass Data MWD	0.33	12634	5	14:40-14:45	Circ & Accumulate Surveys	0.08	12919	5
03:30-03:35	Circ & Accumulate Surveys	0.08	12634	5	14:45-15:20	Rotating With Motor	0.58	12982	5
03:35-03:50	Rotating With Motor	0.25	12644	5	15:20-15:30	Circ & Accumulate Surveys - check shot	0.17	12982	5
03:50-06:20	Orienting With Motor	2.50	12674	5	15:30-16:00	Rotating With Motor	0.50	13014	5
06:20-06:45	Rotating With Motor	0.42	12697	5	16:00-16:05	Circ & Accumulate Surveys	0.08	13014	5
06:45-08:40	Orienting With Motor	1.92	12717	5	16:05-16:15	Rotating With Motor	0.17	13019	5
08:40-09:00	Rotating With Motor	0.33	12729	5	16:15-17:50	Orienting With Motor	1.58	13037	5
09:00-09:05	Circ & Accumulate Surveys	0.08	12729	5	17:50-18:55	Rotating With Motor	1.08	13109	5
09:05-09:10	Rotating With Motor	0.08	12734	5	18:55-19:10	Other - See Comments - spr.	0.25	13109	5
09:10-10:20	Orienting With Motor	1.17	12764	5	19:10-19:15	Rotating With Motor	0.08	13111	5
10:20-10:50	Rotating With Motor	0.50	12793	5	19:15-20:00	Circ & Accumulate Surveys - Survey issues	0.75	13111	5
10:50-10:55	Circ & Accumulate Surveys - check shot	0.08	12793	5	20:00-22:40	Orienting With Motor	2.67	13143	5
10:55-12:15	Orienting With Motor	1.33	12813	5	22:40-23:25	Rotating With Motor	0.75	13172	5
12:15-12:30	Rotating With Motor	0.25	12824	5	23:25-23:40	Circ & Accumulate Surveys - Checkshot	0.25	13172	5
12:30-12:35	Circ & Accumulate Surveys	0.08	12824	5	23:40-24:00	Orienting With Motor	0.33	13176	5

TIME SUMMARY (hrs):

MOTOR DRILL: 21.50	ORIENTING HRS: 14.08	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 7.42	MOTOR HRS: 23.75
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 2.25	ROTARY DRILL: 0.00	OTHER: 0.25
MOTOR HRS: 23.75	DRILL HRS: 21.50	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 13600 ft-lb	STRING WEIGHT 140000 lbs
WOB SLIDING (HI): 35000 lbf	WOB ROTATE (HI): 25000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 60 rpm	DRAG UP: 240000 lbf
RPM (MOTOR): 245 rpm	DRAG DN: 70000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 23.75
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			MTR HRS TO DATE: 44.416666666666
			NOZZLES: 0.61 in² TFA

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 12 - 2012/07/13

PUMP PARAMETERS

PRESSURE ON BTM: 4200**PRESSURE OFF BTM:** 3800**TOTAL FLOW RATE:** 288.48 gal/min**PUMP 1:** TYPE: PZ-11**EFF.:** 95.0%**SPM:** 79.00**LINER:** 6.00 in**STROKE VOL.:** 3.8438 gal/stk**PUMP 2:** TYPE: PZ-11**EFF.:** 95.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**PUMP 3:** TYPE:**EFF.:** 100.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer**VISC:** 42 sec/qt**WTR LOSS:** 6.6 cc/30min**PV:** 18 cP**YP:** 12 lb/100 ft² **pH:** 8.8**DENSITY:** 9.8 lb/gal**GEL 0/10:** 7.00 lb/100 ft²**SAND:** 0.7**SOLIDS:** 7.8**OIL:** 0**TEMP:** 132 °F**LIQUID BASE:** Water**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min

COMMENTS:

Heavy faulting from 12,350 MD to approx. 12,600 MD resulted in severely difficult slide control. Motor was stalling severely, oscillator was set at 30RPMs and up to 5 revs, differential was almost impossible to achieve without stacking 70K. Company representative was kept apprised of the situation from the beginning of evening tour throughout the entire evening. This was important as we were well aware of an upcoming 1.2 SF anti collision concern. MWD data was also diminished through these depths causing us to have to MAD pass frequently. This lack of accurate realtime data could also be seen in tool faces where approx 30% of tool faces were erroneous. Walnut was continually sent through suction after having horrendous luck sliding. By 12,600 MD slide quality improved tremendously. It was even possible to slide with no oscillator at all with weights as low as 15K. Well was corrected to bring us back to the line however attempts at bringing azimuth back left while also anticipating possible left walk tendency failed. Company rep. was again informed that evening tour would bring us approx 20ft right of the line while working to get direction straightened out once again. Check shot just before midnight showed that the 5.5 azm had already been brought back to a 4 deg azm after seeing 9 feet of the first 30ft set.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 13 - 2012/07/14

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani

MWD Supervisor: Jett Hunter

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 13176.0 ft

PROGRESS: 692.0 ft

DAILY COST: USD\$24550.00

KB ELEV: 4974 ft

END DEPTH: 13868.0 ft

AVG. ROP.: 31.6 ft/hr

PREVIOUS COST: USD\$297711.10

TOTAL COST: USD\$322261.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:45	Orienting With Motor	1.75	13192	5	10:00-11:55	Rotating With Motor	1.92	13488	5
01:45-02:00	Rotating With Motor	0.25	13203	5	11:55-12:05	Circ & Accumulate Surveys	0.17	13488	5
02:00-02:20	Rig Service	0.33	13203	5	12:05-13:45	Rotating With Motor	1.67	13583	5
02:20-02:25	Circ & Accumulate Surveys	0.08	13203	5	13:45-13:55	Circ & Accumulate Surveys	0.17	13583	5
02:25-03:15	Rotating With Motor	0.83	13235	5	13:55-14:25	Rotating With Motor	0.50	13615	5
03:15-03:20	Circ & Accumulate Surveys - Checkshot	0.08	13235	5	14:25-14:30	Circ & Accumulate Surveys - Check shot.	0.08	13615	5
03:20-04:15	Orienting With Motor	0.92	13247	5	14:30-15:35	Rotating With Motor	1.08	13678	5
04:15-04:20	Circ & Accumulate Surveys	0.08	13247	5	15:35-15:40	Circ & Accumulate Surveys	0.08	13678	5
04:20-04:45	Rotating With Motor	0.42	13267	5	15:40-15:55	Rotating With Motor	0.25	13688	5
04:45-04:50	Circ & Accumulate Surveys	0.08	13267	5	15:55-20:20	Orienting With Motor	4.42	13718	5
04:50-05:15	Rotating With Motor	0.42	13298	5	20:20-21:10	Rotating With Motor	0.83	13741	5
05:15-05:25	Circ & Accumulate Surveys	0.17	13298	5	21:10-21:15	Circ & Accumulate Surveys - Checkshot	0.08	13741	5
05:25-06:20	Rotating With Motor	0.92	13330	5	21:15-21:55	Rotating With Motor	0.67	13773	5
06:20-06:30	Circ & Accumulate Surveys - check shot.	0.17	13330	5	21:55-22:00	Circ & Accumulate Surveys	0.08	13773	5
06:30-09:10	Orienting With Motor	2.67	13360	5	22:00-23:40	Rotating With Motor	1.67	13868	5
09:10-09:55	Rotating With Motor	0.75	13393	5	23:40-23:55	Rig Service	0.25	13868	5
09:55-10:00	Circ & Accumulate Surveys	0.08	13393	5	23:55-24:00	Circ & Accumulate Surveys	0.08	13868	5

TIME SUMMARY (hrs):

MOTOR DRILL: 21.92	ORIENTING HRS: 9.75	ROTARY DRILL: 0.00	ROTARY TORQUE: 13500 ft-lb	STRING WEIGHT 137000 lbs
TIME DRILL: 0.00	ROTATING HRS: 12.17	MOTOR HRS: 23.42	WOB SLIDING (HI): 70000 lbf	WOB ROTATE (HI): 24000 lbf
MOTOR REAM: 0.00		TRIP: 0.00	WOB SLIDING (LO): 10000 lbf	WOB ROTATE (LO): 6000 lbf
CIRC: 1.50	ROTARY DRILL: 0.00	OTHER: 0.58	RPM (ROTARY): 55 rpm	DRAG UP: 270000 lbf
MOTOR HRS: 23.42	DRILL HRS: 21.92	TOTAL HRS: 24.00	RPM (MOTOR): 245 rpm	DRAG DN: 60000 lbf

DRILLING PARAMETERS:**BHA / MOTOR / BIT INFORMATION:**

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 23.416666666666667
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			NOZZLES: 0.61 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 4150	PRESSURE OFF BTM: 3850	TOTAL FLOW RATE: 292.13 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 80.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 40 sec/qt	WTR LOSS: 5.8 cc/30min	PV: 14 cP	YP: 12 lb/100 ft²	pH: 8.8
DENSITY: 9.9 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.7	SOLIDS: 8.1	OIL: 0	TEMP: 140 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



— **COMMENTS:** _____

Drill F/ 13172 to 13868 MD

Target change @ 10 a.m to 7322 TVD @ 0vs @ 90 deg.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 14 - 2012/07/15

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani

MWD Supervisor: Jett Hunter

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 13868.0 ft

PROGRESS: 413.0 ft

DAILY COST: USD\$24550.00

KB ELEV: 4974 ft

END DEPTH: 14281.0 ft

AVG. ROP.: 34.9 ft/hr

PREVIOUS COST: USD\$322261.10

TOTAL COST: USD\$346811.10

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rotating With Motor	0.25	13880	5	09:00-09:05	Circ & Accumulate Surveys - check shot.	0.08	14089	5
00:15-02:30	Orienting With Motor	2.25	13910	5	09:05-09:55	Rotating With Motor	0.83	14153	5
02:30-02:50	Rotating With Motor	0.33	13931	5	09:55-10:00	Circ & Accumulate Surveys	0.08	14153	5
02:50-02:55	Circ & Accumulate Surveys - Checkshot	0.08	13931	5	10:00-10:50	Rotating With Motor	0.83	14185	5
02:55-03:20	Rotating With Motor	0.42	13963	5	10:50-10:55	Circ & Accumulate Surveys	0.08	14185	5
03:20-03:25	Circ & Accumulate Surveys	0.08	13963	5	10:55-11:25	Rotating With Motor	0.50	14218	5
03:25-03:50	Rotating With Motor	0.42	14000	5	11:25-11:30	Circ & Accumulate Surveys	0.08	14218	5
03:50-03:55	Circ & Accumulate Surveys - Checkshot	0.08	14000	5	11:30-12:00	Rotating With Motor	0.50	14249	5
03:55-05:40	Orienting With Motor	1.75	14006	5	12:00-12:05	Circ & Accumulate Surveys	0.08	14249	5
05:40-06:00	Rotating With Motor	0.33	14023	5	12:05-12:35	Rotating With Motor	0.50	14281	5
06:00-07:40	Orienting With Motor	1.67	14027	5	12:35-12:40	Circ & Accumulate Surveys	0.08	14281	5
07:40-08:15	Rotating With Motor	0.58	14058	5	12:40-16:00	Circ & Condition Hole	3.33	14281	5
08:15-08:20	Circ & Accumulate Surveys	0.08	14058	5	16:00-16:30	Flow Test - flow check	0.50	14281	5
08:20-09:00	Rotating With Motor	0.67	14089	5	16:30-24:00	POOH - See Comments - To run liner.	7.50	14281	5

TIME SUMMARY (hrs):

MOTOR DRILL: 11.83	ORIENTING HRS: 5.67	ROTARY DRILL: 0.00	ROTARY TORQUE: 15000 ft-lb	STRING WEIGHT: 137000 lbs
TIME DRILL: 0.00	ROTATING HRS: 6.17	MOTOR HRS: 16.00	WOB SLIDING (HI): 45000 lbf	WOB ROTATE (HI): 30000 lbf
MOTOR REAM: 0.00		TRIP: 7.50	WOB SLIDING (LO): 10000 lbf	WOB ROTATE (LO): 6000 lbf
CIRC: 4.17	ROTARY DRILL: 0.00	OTHER: 0.50	RPM (ROTARY): 55 rpm	DRAG UP: 270000 lbf
MOTOR HRS: 16.00	DRILL HRS: 11.83	TOTAL HRS: 24.00	RPM (MOTOR): 245 rpm	DRAG DN: 60000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 16
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			NOZZLES: 0.61 in² TFA
			MTR HRS TO DATE: 83.833333333333

PUMP PARAMETERS

PRESSURE ON BTM: 4200	PRESSURE OFF BTM: 3900	TOTAL FLOW RATE: 307.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 80.00	LINER: 6.00 in
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 3.8438 gal/stk
		STROKE VOL.: 0.0000 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 39 sec/qt	WTR LOSS: 5.8 cc/30min	PV: 12 cP	YP: 11 lb/100 ft²	pH: 9
DENSITY: 9.9 lb/gal	GEL 0/10: 5.00 lb/100 ft²	SAND: 0.7	SOLIDS: 8	OIL: 0	TEMP: 247 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 13868 to T.D. @ 14281MD



Daily Activity Report

Drilling Services
v4.2.2674

Day 14 - 2012/07/15

@ 14058 Our TVD was 7317 with a .20 deg. drop per 100 ft with my projections i needed to slide here. At Anadarkos Request / Randy Sprose/ Company man we were to continue Rotating even though Knowing over the Next 100 Ft. we would be at a projected TVD of 7320.91 landing us just a Ft. above the target line of 7322, not allowing us to reach the plan as far as the Vs and North line 25' set back. They then told us to continue Rotating until we Reached a TVD of 7322 and AT 1428 M.D. I was at 7322 the original Target TVD and then made them aware that I was at their TVD. They then Told me to Rotate another 31' knowing I only had 87.72 deg. of angle in the hole and would drop a another ft or 2 over the next 30' leaving us 1' or 2' from our window. We Then Continued Rotating and it started to build a little allowing us to gain on our north & Vs line. We were Then told to go head and let the TVD go to a Tvd of 7325 and that would be it. We then Rotated to a M.D. of 14281 and a TVD of 7324.67, 70' back from the plans measured depth of 14351.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 15 - 2012/07/16

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Charles Apodaca, Brian Trani

MWD Supervisor: Jett Hunter

MWD Trainee: James Asher

Company Man: Doug Barone, Doug Blair

GROUND ELEV: 4949 ft

START DEPTH: 14281.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$28350.00

KB ELEV: 4974 ft

END DEPTH: 14281.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$346811.10

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$375161.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:30	POOH - See Comments	3.50	14281	5	04:15-05:15	Handle Directional Tools - Download LWD	1.00	14281	n/a
03:30-03:45	Handle Directional Tools - JSA	0.25	14281	n/a	05:15-06:00	Lay Down Directional Tools	0.75	14281	n/a
03:45-04:15	Handle Directional Tools - Rmv density source	0.50	14281	n/a	06:00-24:00	Wait On Orders	18.00	14281	n/a

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 3.50
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 20.50
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41087	MODEL: ME6760
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security PDC Bit	TYPE: FXD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD			MTR HRS TO DATE: 83.833333333333
			NOZZLES: 0.61 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 4300	PRESSURE OFF BTM: 3800	TOTAL FLOW RATE: 292.13 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 80.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 39 sec/qt	WTR LOSS: 5.6 cc/30min	PV: 14 cP	YP: 12 lb/100 ft ²	pH: 9
DENSITY: 10.2 lb/gal	GEL 0/10: 5.00 lb/100 ft ²	SAND: 0.7	SOLIDS: 9.3	OIL: 0	TEMP: 132 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

TOOH Lay Down Tools. Reamer run before running in with Packers Plus.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 16 - 2012/07/17**FILE #:** 4026335**WELL NAME:** Camp 24C-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** HEL LWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** Wattenburg / CO / USA**2012/07/17**

No personnel have been recorded for this date.

GROUND ELEV: 4949 ft**START DEPTH:** 14281.0 ft**PROGRESS:** 0.0 ft**DAILY COST:** USD\$0.00**KB ELEV:** 4974 ft**END DEPTH:** 14281.0 ft**AVG. ROP.:** 0.0 ft/hr**PREVIOUS COST:** USD\$375161.10**WORK STATUS:**

(All units are imperial.)

TOTAL COST: USD\$375161.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
		0.00					0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 0.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:**CUSTOMER SIGNATURE:**

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 17 - 2012/07/18

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

2012/07/18

No personnel have been recorded for this date.

GROUND ELEV: 4949 ft

START DEPTH: 14281.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$0.00

KB ELEV: 4974 ft

END DEPTH: 14281.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$375161.10

WORK STATUS:

(All units are imperial.)

TOTAL COST: USD\$375161.10

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
		0.00					0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 0.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

CUSTOMER SIGNATURE:



BHA REPORTS

**Weatherford®**

BHA Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Stephen Schear, Brian Trani

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Pat Cain, James Johnson

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Varel PDC Bit	Varel	4004228	VM513	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	675-4013	QLE7850	6.76	0	3.34	4 1/2" REG Box	4 1/2" IF Box	27.99 ft	28.99 ft
1	Muleshoe	Weatherford	AES 675-33454	UBHO	6.75	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.25 ft	32.24 ft
1	NMDC	Weatherford	43556	Slick NMDC	6.9	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.44 ft	62.68 ft
1	Flex NMDC	Weatherford	675-37419	NMDC	6.85	3.25	5.06	4 1/2" IF Pin	4 1/2" IF Box	31.09 ft	93.77 ft
1	X/O Sub	PD Rentals	DR9169	X/O Sub	6.82	2.8125	0	4 1/2" IF Pin	4 1/2" XH Box	4.12 ft	97.89 ft
45	4 1/2" HWDP	Rig	Rig	15 STDS	4.5	2.75	0	4 1/2" XH Pin	4 1/2" XH Box	1367.52	1465.41 ft
1	X/O Sub	Rig	Rig	X/O Sub	5.125	2.78	0	4 1/2" XH Pin	XT-39 Box	2.29 ft	1467.70 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/07/02 TO 2012/07/04
 DEPTH IN: 792.00 ft ANGLE IN: 0.14 °
 DEPTH OUT: 6716.00 ft ANGLE OUT: 0.20 °
 DRILL HRS: 33.25 BUILD: 0.06 °
 ORIENTING HRS: 7.50 HOLE MADE: 5924.00 ft
 ROTATING HRS: 25.75 AVG R.O.P.: 178.17 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford SETTING: 1.50 °
 SERIAL #: 675-4013 KICK PAD: No
 MODEL: QLE7850 STABILIZER: No
 LOBE CFG: 7/8 MOTOR HRS: 41.50
 BIT TO BEND: 6.29

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	156	0	0
STROKE VOLUME:	3.8438 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	569.65637 gal/min		
PUMP PRESSURE:	OFF BTM: 2000 psi	ON BTM: 3200 psi	

MUD INFORMATION

MUD TYPE: Water LIQUID BASE: Water
 DENSITY: 8.5 lb/gal TEMP: 110 °F
 VISCOSITY: 27 sec/qt pH: 8.6
 WTR LOSS: 30 cc/30min SAND: 0.1 LIQUID RATE: 0 gal/min
 PLAST VISC: 1 cP SOLIDS: 1.2 GAS TYPE:
 YIELD PT: 4 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Varel TYPE: VM513 IADC BIT GRADE: 1 / 2 / BT / N / X / I / CT / BHA
 NOZZLES: 0.863 in² TFA

REASON FOR BHA CHANGE

Change motor and bit for curve.

FORMATION CHARACTERISTICS

All formations drilled good until we drilled into the Sussex. The Sussex is a very sticky formation causing us to hang up while sliding followed by stalling the motor when the weight drops off.

MWD COMMENTS

MWD pulled, plugged into, torque checked and re-high sided at end of run before continuing with curve assy. No issues during run.



BHA 1 - Build & Hold Section

SIDETRACKING PROCEDURE COMMENTS

NA

RUN SUMMARY

Average builds Rates experienced, 9 deg. per. 100' BHA was in good condition when pulled, we encountered no other problems.

**Weatherford®**

BHA Report

BHA 2 - Curve Section

Drilling Services
v4.2.2674**FILE #:** 4026335**JOB TYPE:** Horizontal**RIG & NO:** Helmerich & Payne 307**WELL NAME:** Camp 24C-30HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Weatherford Drilling Services**SURVEY TYPE:** HEL LWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear**MWD Supervisor:** Jett Hunter, Jon Leger**Company Man:** Doug Barone, Doug Blair**BHA SURVEY TYPE:** Positive Pulse MWD**HOLE SIZE:** 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit Security	Security	11868394	FXd54	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	675-0994	QLE7850	8.1	0	3.35	4 1/2" REG Box	4 1/2" IF Box	27.89 ft	28.89 ft
1	Muleshoe	Weatherford	AES 675-33454	UBHO	6.75	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.25 ft	32.14 ft
1	NMDC	Weatherford	43556	Slick NMDC	6.9	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.44 ft	62.58 ft
1	Flex NMDC	Weatherford	675-37419	NMDC	6.85	3.25	5.06	4 1/2" IF Pin	4 1/2" IF Box	31.09 ft	93.67 ft
1	X/O Sub	PD Rentals	DR9169	X/O Sub	6.82	2.8125	0	4 1/2" IF Pin	4 1/2" XH Box	4.12 ft	97.79 ft
45	4 1/2" HWDP	Rig	Rig	15 STDS	4.5	2.75	0	4 1/2" XH Pin	4 1/2" XH Box	1367.52	1465.31 ft
1	X/O Sub	Rig	Rig	X/O Sub	5.125	2.78	0	4 1/2" XH Pin	XT-39 Box	2.29 ft	1467.60 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/07/05 TO 2012/07/06
DEPTH IN: 6716.00 ft **ANGLE IN:** 1.25 °
DEPTH OUT: 7749.00 ft **ANGLE OUT:** 83.35 °
DRILL HRS: 17.33 **BUILD:** 82.10 °
ORIENTING HRS: 14.58 **HOLE MADE:** 1033.00 ft
ROTATING HRS: 2.75 **AVG R.O.P.:** 59.61 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford **SETTING:** 2.25 °
SERIAL #: 675-0994 **KICK PAD:** 8.10
MODEL: QLE7850 **STABILIZER:** No
LOBE CFG: 7/8 **MOTOR HRS:** 24.08
BIT TO BEND: 6.32

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	78	78	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	598 gal/min		
PUMP PRESSURE:	OFF BTM: 3100 psi	ON BTM: 3400 psi	

MUD INFORMATION

MUD TYPE: Gelchem **LIQUID BASE:** Water
DENSITY: 9.8 lb/gal **TEMP:** 177 °F
VISCOSITY: 39 sec/qt **pH:** 9
WTR LOSS: 8 cc/30min **SAND:** 0.01 **LIQUID RATE:** 0 gal/min
PLAST VISC: 7 cP **SOLIDS:** 7.1 **GAS TYPE:**
YIELD PT: 5 lb/100 ft² **OIL:** 2 **GAS RATE:** 0 cu ft/min

BIT INFORMATION

MANFCT: Security **TYPE:** FXd54 **IADC BIT GRADE:** 1 / 2 / CT / G / X / I / FC / TD
NOZZLES: 1.011 in² TFA

REASON FOR BHA CHANGE

TD Curve.

FORMATION CHARACTERISTICS

All formations drilled as expected. We did not get the build rates we expected to get although they were enough to land this curve according to plan. Also we fought the direction the entire curve. This section of the hole was pulling us hard to the east. We slid 90L as well as HS to build & maintain hole direction.

MWD COMMENTS

Mud Pulse MWD tool system with Inc. Sonde & Gamma performed as expected. a 60° orifice was used in a 6 3/4" pulser. Total Battery consumption at TD was 18.4 Amp Hours and down hole temp was 181°F. No Problems encountered.



SIDETRACKING PROCEDURE COMMENTS

NA

RUN SUMMARY

Average build rates experienced were 10.92°/100'. Curve landed in 11.6 on bottom hours. Normally in the Wattenburg field we have experienced 14° - 15°/100' build rates with a 2.25° fixed housing motor with a sleeve & an 8 1/4" kick pad. These average build rates were extremely lower than usually but we were still able to land the curve according to plan. The target TVD was changed twice through this curve. We landed 1' below last suggested target TVD of 7324'

Condition of BHA looked good when pulled and the status and objective of this BHA was successful in building the curve. No problems encountered.

**Weatherford®**

BHA Report

Drilling Services
v4.2.2674

BHA 3 - Lateral 1 Section

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security PDC Bit	Security	11991453	FXD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	475-1287	ME6770	5.42	0	2.79	3 1/2" REG Box	3 1/2" IF Box	25.99 ft	26.99 ft
1	Duradrill Slide Stab	Duradrill	DM9332-03	Dynomax	4.82	2.25	0	3 1/2" IF Pin	3 1/2" IF Box	5.95 ft	32.94 ft
1	SAGR	WEATHERFORD	NW20804	LWD/Azi. GR	4.75	2.5	7.59	3 1/2" IF Pin	3 1/2" IF Box	14.05 ft	46.99 ft
1	Split IDS	Weatherford	NW20800	LWD/Svy Snr	4.75	2.75	3.3	3 1/2" IF Pin	3 1/2" IF Box	12.07 ft	59.06 ft
1	MFR	Weatherford	NW20799	LWD/Resistivity	4.75	2.5	7.33	3 1/2" IF Pin	3 1/2" IF Box	29.19 ft	88.25 ft
1	AZD	Weatherford	NW21360	LWD/Density	4.75	2.5	3.77	3 1/2" IF Pin	3 1/2" IF Box	24.51 ft	112.76 ft
1	HEL LWD	Weatherford	NW20798	LWD/ Pulser	4.75	2.5	10.43	3 1/2" IF Pin	3 1/2" IF Box	14.54 ft	127.30 ft
1	Stabilizer	Stabadrill	SD 20817	NM Stabilizer	4.8	3.5	2.09	3 1/2" IF Pin	3 1/2" IF Box	5.73 ft	133.03 ft
1	NMDC	Weatherford	43546	Slick NMDC	4.84	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	30.99 ft	164.02 ft
1	X/O Sub	Weatherford	44887	X/O Sub	5.04	2.625	0	3 1/2" IF Pin	XT-39 Box	2.68 ft	166.70 ft
63	4" Drill Pipe	Rig	Rig	21 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	1992.49	2159.19 ft
1	Aggitator	NOV	9500-0028	Aggitator	5.01	2	0	XT-39 Pin	XT-39 Box	22.32 ft	2181.51 ft
156	4" Drill Pipe	Rig	Rig	52 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	4931.82	7113.33 ft
75	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	2285.22	9398.55 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/07/07 TO 2012/07/09
 DEPTH IN: 7749.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 9156.00 ft ANGLE OUT: 90.37 °
 DRILL HRS: 16.42 BUILD: 90.37 °
 ORIENTING HRS: 4.50 HOLE MADE: 1407.00 ft
 ROTATING HRS: 11.92 AVG R.O.P.: 85.69 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford SETTING: 1.50 °
 SERIAL #: 475-1287 KICK PAD: No
 MODEL: ME6770 STABILIZER: No
 LOBE CFG: 6/7 MOTOR HRS: 24.67
 BIT TO BEND: 6.13

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	39	39	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	284.82819 gal/min		
PUMP PRESSURE:	OFF BTM: 3400 psi	ON BTM: 4400 psi	

MUD INFORMATION

MUD TYPE: Polymer LIQUID BASE: Water
 DENSITY: 9.9 lb/gal TEMP: 125 °F
 VISCOSITY: 38 sec/qt pH: 10
 WTR LOSS: 6.2 cc/30min SAND: 0.5 LIQUID RATE: 0 gal/min
 PLAST VISC: 38 cP SOLIDS: 7.9 GAS TYPE:
 YIELD PT: 13 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: FXD54 IADC BIT GRADE: 1 / 1 / CT / A / X / I / WT / DTF
 NOZZLES: 0.61 in² TFA

REASON FOR BHA CHANGE

MWD failure.



FORMATION CHARACTERISTICS

Assembly fell in rotation up to 4 deg/hund. and also walked left/West. Slides were placed nearly every stand up and or to the right to maintain direction and inclination.

MWD COMMENTS

MWD had to be re-wiped on several occasions to log missing data. This seemed to be due to pump noise and or vibration from the agitator while in casing. The MWD, however, did fail and we had to TOOH. Once on surface the MWDs found.....

SIDETRACKING PROCEDURE COMMENTS

NA

RUN SUMMARY

**Weatherford®**

BHA Report

Drilling Services
v4.2.2674

BHA 4 - Lateral 1 Section

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security PDC Bit	Security	11991453	FXD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	475-41087	ME6760	5.5	0	0.26	3 1/2" REG Box	3 1/2" IF Box	25.87 ft	26.87 ft
1	Duradrill Slide Stab	Duradrill	DM9332-03	Dynomax	4.82	2.25	0	3 1/2" IF Pin	3 1/2" IF Box	5.95 ft	32.82 ft
1	SAGR	WEATHERFORD	NW20804	LWD/Azi. GR	4.75	2.5	7.59	3 1/2" IF Pin	3 1/2" IF Box	14.05 ft	46.87 ft
1	Split IDS	Weatherford	NW20800	LWD/Svy Snr	4.75	2.75	3.3	3 1/2" IF Pin	3 1/2" IF Box	12.07 ft	58.94 ft
1	MFR	Weatherford	NW20799	LWD/Resistivity	4.75	2.5	7.33	3 1/2" IF Pin	3 1/2" IF Box	29.19 ft	88.13 ft
1	AZD	Weatherford	NW21359	LWD/Density	4.75	2.5	3.78	3 1/2" IF Pin	3 1/2" IF Box	24.50 ft	112.63 ft
1	HEL LWD	Weatherford	NW20798	LWD/ Pulser	4.75	2.5	10.43	3 1/2" IF Pin	3 1/2" IF Box	14.54 ft	127.17 ft
1	Stabilizer	Stabadrill	SD 20817	NM Stabilizer	4.8	3.5	2.09	3 1/2" IF Pin	3 1/2" IF Box	5.73 ft	132.90 ft
1	NMDC	Weatherford	43546	Slick NMDC	4.84	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	30.99 ft	163.89 ft
1	X/O Sub	Weatherford	44887	X/O Sub	5.04	2.625	0	3 1/2" IF Pin	XT-39 Box	2.68 ft	166.57 ft
63	4" Drill Pipe	Rig	Rig	21 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	1992.49	2159.06 ft
1	Aggitator	NOV	9500-0028	Aggitator	5.01	2	0	XT-39 Pin	XT-39 Box	22.32 ft	2181.38 ft
156	4" Drill Pipe	Rig	Rig	52 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	4931.82	7113.20 ft
75	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	2285.22	9398.42 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/07/09 TO 2012/07/10
 DEPTH IN: 9156.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 9221.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 0.35 BUILD: 0.00 °
 ORIENTING HRS: 0.00 HOLE MADE: 65.00 ft
 ROTATING HRS: 0.35 AVG R.O.P.: 185.71 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford SETTING: 1.50 °
 SERIAL #: 475-41087 KICK PAD: No
 MODEL: ME6760 STABILIZER: No
 LOBE CFG: 6/7 MOTOR HRS: 3.50
 BIT TO BEND: 6.14

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	80	0	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	292.13147 gal/min		
PUMP PRESSURE:	OFF BTM: 3400 psi	ON BTM: 4000 psi	

MUD INFORMATION

MUD TYPE: Polymer LIQUID BASE: Water
 DENSITY: 9.9 lb/gal TEMP: 120 °F
 VISCOSITY: 36 sec/qt pH: 9
 WTR LOSS: 5.8 cc/30min SAND: 0.5 LIQUID RATE: 0 gal/min
 PLAST VISC: 12 cP SOLIDS: 8 GAS TYPE:
 YIELD PT: 5 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: FXD54 IADC BIT GRADE: 1 1/2 / CT / A / X / I / WT / DTF
 NOZZLES: 0.61 in² TFA

REASON FOR BHA CHANGE

LWD Failure



Weatherford®

BHA Report

Drilling Services
v4.2.2674

BHA 4 - Lateral 1 Section

FORMATION CHARACTERISTICS

Formation was as expected.

MWD COMMENTS

Tools took check shot rotated 65'. After troubleshooting tool had faulted and was pulled out of hole. A interconnect was fluided.

SIDETRACKING PROCEDURE COMMENTS

RUN SUMMARY

Drilled 65' rotating all was as expected. Motor and bit looked as it did when we ran it in.

**Weatherford®**

BHA Report

Drilling Services
v4.2.2674

BHA 5 - Lateral 1 Section

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Stephen Schear, Josh Monroe

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security PDC Bit	Security	11991453	FXD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	475-41087	ME6760	5.5	0	0.26	3 1/2" REG Box	3 1/2" IF Box	25.87 ft	26.87 ft
1	Duradrill Slide Stab	Duradrill	DM9332-03	Dynomax	4.82	2.25	0	3 1/2" IF Pin	3 1/2" IF Box	5.95 ft	32.82 ft
1	SAGR	WEATHERFORD	NW20804	LWD/Azi. GR	4.75	2.5	7.59	3 1/2" IF Pin	3 1/2" IF Box	14.05 ft	46.87 ft
1	Split IDS	WEATHERFORD	NW20803	LWD / Svy Snsr	4.75	2.5	3.36	3 1/2" IF Pin	3 1/2" IF Box	12.17 ft	59.04 ft
1	MFR	Weatherford	NW20799	LWD/Resistivity	4.75	2.5	7.33	3 1/2" IF Pin	3 1/2" IF Box	29.19 ft	88.23 ft
1	AZD	Weatherford	NW21359	LWD/Density	4.75	2.5	3.78	3 1/2" IF Pin	3 1/2" IF Box	24.50 ft	112.73 ft
1	HEL LWD	WEATHERFORD	NW20802	LWD/Pulser	4.75	2.5	10.43	3 1/2" IF Pin	3 1/2" IF Box	14.58 ft	127.31 ft
1	Stabilizer	Stabadrill	SD 20817	NM Stabilizer	4.8	3.5	2.09	3 1/2" IF Pin	3 1/2" IF Box	5.73 ft	133.04 ft
1	NMDC	Weatherford	43546	Slick NMDC	4.84	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	30.99 ft	164.03 ft
1	X/O Sub	Weatherford	44887	X/O Sub	5.04	2.625	0	3 1/2" IF Pin	XT-39 Box	2.68 ft	166.71 ft
63	4" Drill Pipe	Rig	Rig	21 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	1992.49	2159.20 ft
1	Aggitator	NOV	9500-0028	Aggitator	5.01	2	0	XT-39 Pin	XT-39 Box	22.32 ft	2181.52 ft
156	4" Drill Pipe	Rig	Rig	52 STDS	4	3.5	0	XT-39 Pin	XT-39 Box	4931.82	7113.34 ft
75	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	2285.22	9398.56 ft

(O.D. units are in; I.D. units are in; F.Neck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/07/10 TO 2012/07/16
 DEPTH IN: 9221.00 ft ANGLE IN: 91.06 °
 DEPTH OUT: 14281.00 ft ANGLE OUT: 88.52 °
 DRILL HRS: 69.50 BUILD: -2.54 °
 ORIENTING HRS: 44.75 HOLE MADE: 5060.00 ft
 ROTATING HRS: 24.08 AVG R.O.P.: 72.81 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford SETTING: 1.50 °
 SERIAL #: 475-41087 KICK PAD: No
 MODEL: ME6760 STABILIZER: No
 LOBE CFG: 6/7 MOTOR HRS: 80.33
 BIT TO BEND: 6.14

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	80	0	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	292.13147 gal/min		
PUMP PRESSURE:	OFF BTM: 3800 psi	ON BTM: 4300 psi	

MUD INFORMATION

MUD TYPE: Water LIQUID BASE: Water
 DENSITY: 10.2 lb/gal TEMP: 132 °F
 VISCOSITY: 39 sec/qt pH: 9
 WTR LOSS: 5.6 cc/30min SAND: 0.7 LIQUID RATE: 0 gal/min
 PLAST VISC: 14 cP SOLIDS: 9.3 GAS TYPE:
 YIELD PT: 12 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: FXD54 IADC BIT GRADE: 1 / 3 / BT / N / ? / 1 / BT / TD
 NOZZLES: 0.61 in² TFA

REASON FOR BHA CHANGE

Hole was T.D.

**BHA 5 - Lateral 1 Section**

FORMATION CHARACTERISTICS

The Codel is a tough formation to drill, it seems real soft which makes it hard to slid in and get toolfaces in.

MWD COMMENTS

LWD tool ran good on this run , Signal strenght was good. We had some signal strength issues do to the driller not letting all the back tourq out of the drill string and when picking up he would over pull his drill string weight natrually but then not come back to his nutral weight before kicking his pmps in this was causeing all kinds of noise interference but we got it fixed and moved on.

SIDETRACKING PROCEDURE COMMENTS

RUN SUMMARY

Average buildup rates experienced 10 deg. per 100' Condition of BHA was good. Other than corrosion ring was carotid. The motor had a 1/2 inch of squat when squat testing the thrust bearings. The bit had some chipped cutters.



SLIDE REPORT



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 1 - 2012/07/02 TO 2012/07/04

FILE #: 4026335

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 24C-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Stephen Schear, Brian Trani

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Pat Cain, James Johnson

BHA NO: 1	DATES RUN: 2012/07/02 TO 2012/07/04	SECTION: Build & Ho	TOOLFACE OFFSET: 222.7 °	SURVEY OFFSET: 60 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: QLE7850	SERIAL NO: 675-4013
BHA SURVEY TYPE: Positive Pulse MWD				

(Distances are shown in feet.)

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
1055.00	86.00	995.00	0.14	264.77	130 M	1055.00	1073.00	18.00	1073.00	1141.00	68.00	0.00	0.00	0.00	
1141.00	94.00	1081.00	1.54	152.17	123 M	1141.00	1166.00	25.00	1166.00	1235.00	69.00	18.00	0.08	1.63	
1235.00	95.00	1175.00	3.99	135.87	115 M	1235.00	1260.00	25.00	1260.00	1330.00	70.00	25.00	0.10	2.61	
1330.00	95.00	1270.00	6.50	127.72	15 L	1330.00	1355.00	25.00	1355.00	1425.00	70.00	25.00	0.10	2.64	
1425.00	327.00	1365.00	8.51	125.39	HS	1425.00	1443.00	18.00	1443.00	1752.00	309.00	25.00	0.08	2.12	
1752.00	474.00	1692.00	10.61	127.90	90L	1752.00	1767.00	15.00	1767.00	2226.00	459.00	18.00	0.12	0.64	
2226.00	95.00	2166.00	7.66	121.54	HSR	2226.00	2251.00	25.00	2251.00	2321.00	70.00	15.00	-0.20	-0.62	
2321.00	95.00	2261.00	8.77	12696.0	HSL	2321.00	2341.00	20.00	2341.00	2416.00	75.00	25.00	0.04	1.17	
2416.00	95.00	2356.00	9.44	122.82	HS	2416.00	2436.00	20.00	2436.00	2511.00	75.00	20.00	0.03	0.71	
2511.00	95.00	2451.00	9.46	124.44	HSL	2511.00	2531.00	20.00	2531.00	2606.00	75.00	20.00	0.00	0.02	
2606.00	95.00	2546.00	9.06	122.23	HSL	2606.00	2636.00	30.00	2636.00	2701.00	65.00	20.00	-0.02	-0.42	
2701.00	95.00	2641.00	9.39	121.96	HSL	2701.00	2751.00	50.00	2751.00	2796.00	45.00	30.00	0.01	0.35	
2796.00	94.00	2736.00	10.56	129.87	90I	2796.00	2811.00	15.00	2811.00	2890.00	79.00	35.00	0.03	1.23	
2890.00	285.00	2830.00	12.46	129.96	90I	2890.00	2905.00	15.00	2905.00	3175.00	270.00	30.00	0.06	2.02	
3175.00	95.00	3115.00	11.08	123.63	90I	3175.00	3185.00	10.00	3185.00	3270.00	85.00	15.00	-0.09	-0.48	
3270.00	190.00	3210.00	9.76	129.78	60I	3270.00	3300.00	30.00	3300.00	3460.00	160.00	10.00	-0.13	-1.39	
3460.00	95.00	3400.00	6.68	117.46	HSL	3460.00	3515.00	55.00	3515.00	3555.00	40.00	30.00	-0.10	-1.62	
3555.00	94.00	3495.00	6.35	116.19	HS	3555.00	3585.00	30.00	3585.00	3649.00	64.00	35.00	-0.01	-0.35	
3649.00	95.00	3589.00	9.12	116.48	HS	3649.00	3674.00	25.00	3674.00	3744.00	70.00	50.00	0.06	2.95	
3744.00	95.00	3684.00	8.68	113.64	30 R	3744.00	3769.00	25.00	3769.00	3839.00	70.00	25.00	-0.02	-0.46	
3839.00	95.00	3779.00	7.67	127.67	HS	3839.00	3880.00	41.00	3880.00	3934.00	54.00	25.00	-0.04	-1.06	
3934.00	95.00	3874.00	8.54	133.32	35 L	3934.00	3966.00	32.00	3966.00	4029.00	63.00	35.00	0.02	0.92	
4029.00	190.00	3969.00	10.35	127.49	HS	4029.00	4060.00	31.00	4060.00	4219.00	159.00	38.00	0.05	1.91	
4219.00	94.00	4159.00	10.93	123.70	LS	4219.00	4219.00	0.00	4219.00	4313.00	94.00	31.00	0.02	0.31	



(Distances are shown in feet.)

Slide Sheet Report

BHA 1 - 2012/07/02 TO 2012/07/04

Drilling Services

v4.2.2674

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
4313.00	96.00	4253.00	8.43	122.79	LS	4313.00	4321.00	8.00	4321.00	4409.00	88.00	0.00	0.00	-2.66	
4409.00	94.00	4349.00	4.74	118.76	LS	4409.00	4417.00	8.00	4417.00	4503.00	86.00	8.00	-0.46	-3.84	
4503.00	490.00	4443.00	2.45	139.33	325 M	4503.00	4508.00	5.00	4508.00	4993.00	485.00	8.00	-0.29	-2.44	
4993.00	1028.00	4933.00	2.64	224.25	44 M	4993.00	5008.00	15.00	5008.00	6021.00	1013.00	5.00	0.04	0.04	
6021.00	95.00	5961.00	0.69	149.82	330M	6021.00	6036.00	15.00	6036.00	6116.00	80.00	15.00	-0.13	-0.19	
6116.00	600.00	6056.00	0.20	275.55	0	6116.00	6126.00	10.00	6126.00	6716.00	590.00	15.00	-0.03	-0.52	

Totals:	661.00 ft	5000.00 ft
Percentages:	11.7%	88.3%
Time:	7.50 hrs	25.75 hrs
Percentages:	22.6%	77.4%



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 2 - 2012/07/05 TO 2012/07/06

FILE #: 4026335

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 24C-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA NO: 2	DATES RUN: 2012/07/05 TO 2012/07/06	SECTION: Curve	TOOLFACE OFFSET: 167.7 °	SURVEY OFFSET: 60 ft
MOTOR SETTING: 2.25 °	KICKPAD: 8.10	STABILIZER: No	MODEL: QLE7850	SERIAL NO: 675-0994
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
6716.00	32.00	6656.00	1.25	190.93	350M	6716.00	6748.00	32.00	6748.00	6748.00	0.00	0.00	0.00	0.00	
6748.00	31.00	6688.00	1.19	186.20	350M	6748.00	6779.00	31.00	6779.00	6779.00	0.00	0.00	0.00	-0.19	
6779.00	32.00	6719.00	0.49	316.08	350m	6779.00	6811.00	32.00	6811.00	6811.00	0.00	3.00	-0.23	-2.26	
6811.00	32.00	6751.00	4.35	356.58	0	6811.00	6829.00	18.00	6829.00	6843.00	14.00	32.00	0.12	12.06	
6843.00	32.00	6783.00	7.79	0.30	0	6843.00	6867.00	24.00	6867.00	6875.00	8.00	32.00	0.11	10.75	
6875.00	31.00	6815.00	9.09	0.73	0	6875.00	6906.00	31.00	6906.00	6906.00	0.00	32.00	0.04	4.06	
6906.00	32.00	6846.00	9.40	358.46	0	6906.00	6938.00	32.00	6938.00	6938.00	0.00	17.00	0.02	1.00	
6938.00	31.00	6878.00	12.64	359.56	0	6938.00	6969.00	31.00	6969.00	6969.00	0.00	24.00	0.14	10.13	
6969.00	32.00	6909.00	15.71	0.78	0	6969.00	7001.00	32.00	7001.00	7001.00	0.00	31.00	0.10	9.90	
7001.00	31.00	6941.00	18.44	2.67	20L	7001.00	7032.00	31.00	7032.00	7032.00	0.00	32.00	0.09	8.53	
7032.00	32.00	6972.00	21.00	5.38	30I	7032.00	7064.00	32.00	7064.00	7064.00	0.00	31.00	0.08	8.26	
7064.00	32.00	7004.00	23.62	5.07	30L	7064.00	7096.00	32.00	7096.00	7096.00	0.00	32.00	0.08	8.19	
7096.00	31.00	7036.00	26.52	4.25	10I	7096.00	7127.00	31.00	7127.00	7127.00	0.00	32.00	0.09	9.06	
7127.00	32.00	7067.00	29.72	2.95	0	7127.00	7159.00	32.00	7159.00	7159.00	0.00	31.00	0.10	10.32	
7159.00	31.00	7099.00	32.97	0.62	0	7159.00	7181.00	22.00	7181.00	7190.00	9.00	32.00	0.10	10.16	
7190.00	32.00	7130.00	36.70	359.93	0	7190.00	7209.00	19.00	7209.00	7222.00	13.00	31.00	0.12	12.03	
7222.00	32.00	7162.00	39.15	0.02	20I	7222.00	7254.00	32.00	7254.00	7254.00	0.00	32.00	0.08	7.66	
7254.00	31.00	7194.00	41.35	0.94	30I	7254.00	7277.00	23.00	7277.00	7285.00	8.00	23.00	0.10	6.88	
7285.00	32.00	7225.00	44.51	0.91	45 L	7285.00	7312.00	27.00	7312.00	7317.00	5.00	18.00	0.18	10.19	
7317.00	31.00	7257.00	46.76	359.90	HS	7317.00	7348.00	31.00	7348.00	7348.00	0.00	32.00	0.07	7.03	
7348.00	32.00	7288.00	49.27	358.79	20 L	7348.00	7370.00	22.00	7370.00	7380.00	10.00	23.00	0.11	8.10	
7380.00	32.00	7320.00	52.83	357.83	20 R	7380.00	7397.00	17.00	7397.00	7412.00	15.00	27.00	0.13	11.12	
7412.00	31.00	7352.00	55.40	358.71	HS	7412.00	7443.00	31.00	7443.00	7443.00	0.00	32.00	0.08	8.03	
7443.00	0.00	7383.00	57.74	358.57	HS	7443.00	7475.00	32.00	7475.00	7443.00	-32.00	21.00	0.11	7.55	

Slide Sheet Report

BHA 2 - 2012/07/05 TO 2012/07/06

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY					----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR /ft	BUR /100ft	COMMENTS
	DEPTH	INC	AZM	TF		FROM	TO	FEET	FROM	TO	FEET				
7443.00	32.00	7383.00	65.47	0.51	45 L	7443.00	7475.00	32.00	7475.00	7475.00	0.00	0.00	0.00	0.00	
7475.00	31.00	7415.00	68.07	0.97	HS	7475.00	7501.00	26.00	7501.00	7506.00	5.00	17.00	0.15	8.12	
7506.00	32.00	7446.00	69.19	1.22	45 L	7506.00	7538.00	32.00	7538.00	7538.00	0.00	34.00	0.03	3.61	
7538.00	32.00	7478.00	72.93	1.80	45 L	7538.00	7564.00	26.00	7564.00	7570.00	6.00	61.00	0.06	11.69	
7570.00	63.00	7510.00	76.23	2.49	50 L	7570.00	7601.00	31.00	7601.00	7633.00	32.00	27.00	0.12	10.31	
7633.00	32.00	7573.00	81.93	358.03	HS	7633.00	7665.00	32.00	7665.00	7665.00	0.00	57.00	0.10	9.05	
7665.00	21.00	7605.00	83.35	356.15	HS	7665.00	7686.00	21.00	7686.00	7686.00	0.00	28.00	0.05	4.44	

Totals:	877.00 ft	93.00 ft
Percentages:	90.4%	9.6%
Time:	14.58 hrs	2.75 hrs
Percentages:	84.1%	15.9%



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 3 - 2012/07/07 TO 2012/07/09

FILE #: 4026335

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 24C-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA NO: 3	DATES RUN: 2012/07/07 TO 2012/07/09	SECTION: Lateral 1	TOOLFACE OFFSET: 321.0 °	SURVEY OFFSET: 52 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: ME6770	SERIAL NO: 475-1287
				BHA SURVEY TYPE: HEL LWD

(Distances are shown in feet.)

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
7749.00	7.00	7697.00	0.00	0.00		7749.00	7749.00	0.00	7749.00	7756.00	7.00	0.00	0.00	0.00	
7756.00	30.00	7704.00	0.00	0.00	90 R	7756.00	7768.00	12.00	7768.00	7786.00	18.00	0.00	0.00	0.00	
7786.00	59.00	7734.00	89.32	0.00	90 R	7786.00	7796.00	10.00	7796.00	7845.00	49.00	0.00	0.00	297.73	
7845.00	122.00	7793.00	89.38	1.09	40L	7845.00	7865.00	20.00	7865.00	7967.00	102.00	19.00	0.00	0.10	
7967.00	122.00	7915.00	90.43	359.58	20R	7967.00	7985.00	18.00	7985.00	8089.00	104.00	23.00	0.05	0.86	
8089.00	243.00	8037.00	90.68	0.22	HS	8089.00	8104.00	15.00	8104.00	8332.00	228.00	18.00	0.01	0.20	
8332.00	121.00	8280.00	89.88	358.61	HS	8332.00	8347.00	15.00	8347.00	8453.00	106.00	15.00	-0.05	-0.33	
8453.00	46.00	8401.00	89.26	355.80	35R	8453.00	8484.00	31.00	8484.00	8499.00	15.00	15.00	-0.04	-0.51	
8499.00	46.00	8447.00	88.09	354.40	45R	8499.00	8515.00	16.00	8515.00	8545.00	30.00	0.00	0.00	-2.54	
8545.00	35.00	8493.00	90.00	355.64	60R	8545.00	8576.00	31.00	8576.00	8580.00	4.00	31.00	0.06	4.15	
8580.00	88.00	8528.00	89.21	354.91	60R	8580.00	8620.00	40.00	8620.00	8668.00	48.00	16.00	-0.05	-2.26	
8668.00	184.00	8616.00	91.29	358.51	60R	8668.00	8703.00	35.00	8703.00	8852.00	149.00	67.00	0.03	2.36	
8852.00	185.00	8800.00	92.04	0.20	80R	8852.00	8872.00	20.00	8872.00	9037.00	165.00	39.00	0.02	0.41	
9037.00	92.00	8985.00	89.29	0.20	60R	9037.00	9070.00	33.00	9070.00	9129.00	59.00	20.00	-0.14	-1.49	
9129.00	27.00	9077.00	90.37	0.14		9129.00	9129.00	0.00	9129.00	9156.00	27.00	33.00	0.03	1.17	

Totals:	296.00 ft	1111.00 ft
Percentages:	21.0%	79.0%
Time:	4.50 hrs	11.92 hrs
Percentages:	27.4%	72.6%



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 4 - 2012/07/09 TO 2012/07/10

FILE #: 4026335
JOB TYPE: Horizontal
RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 24C-30HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear
MWD Supervisor: Jett Hunter, Jon Leger
Company Man: Doug Barone, Doug Blair

BHA NO: 4	DATES RUN: 2012/07/09 TO 2012/07/10	SECTION: Lateral 1	TOOLFACE OFFSET: 94.55 °	SURVEY OFFSET: 52 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: ME6760	SERIAL NO: 475-41087
BHA SURVEY TYPE: HEL LWD				

(Distances are shown in feet.)

BIT		SURVEY			----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FROM	TO		SEEN			
0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Totals:						0.00 ft			0.00 ft					
Percentages:						0.0%			0.0%					
Time:						0.00 hrs			0.35 hrs					
Percentages:						0.0%			100.0%					



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 5 - 2012/07/10 TO 2012/07/16

FILE #: 4026335

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 24C-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Stephen Schear, Josh Monroe

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA NO: 5	DATES RUN: 2012/07/10 TO 2012/07/16	SECTION: Lateral 1	TOOLFACE OFFSET: 293.7 °	SURVEY OFFSET: 52 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: ME6760	SERIAL NO: 475-41087
				BHA SURVEY TYPE: HEL LWD

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
9221.00	92.00	9169.00	91.06	359.32	110R	9221.00	9241.00	20.00	9241.00	9313.00	72.00	0.00	0.00	0.00	
9313.00	92.00	9261.00	90.86	2.40	LS	9313.00	9328.00	15.00	9328.00	9405.00	77.00	20.00	-0.01	-0.22	
9405.00	95.00	9353.00	89.01	1.33		9405.00	9405.00	0.00	9405.00	9500.00	95.00	15.00	-0.12	-2.01	
9500.00	285.00	9448.00	88.52	1.64	20R	9500.00	9512.00	12.00	9512.00	9785.00	273.00	0.00	0.00	-0.52	
9785.00	189.00	9733.00	88.94	1.61	20L	9785.00	9803.00	18.00	9803.00	9974.00	171.00	12.00	0.04	0.15	
9974.00	95.00	9922.00	89.40	0.89	10L	9974.00	9994.00	20.00	9994.00	10069.00	75.00	18.00	0.03	0.24	
10069.00	191.00	10017.00	89.91	359.67	10L	10069.00	10093.00	24.00	10093.00	10260.00	167.00	20.00	0.03	0.54	
10260.00	285.00	10208.00	89.45	358.79	60R	10260.00	10295.00	35.00	10295.00	10545.00	250.00	24.00	-0.02	-0.24	
10545.00	95.00	10493.00	88.03	356.16	60r	10545.00	10575.00	30.00	10575.00	10640.00	65.00	35.00	-0.04	-0.50	
10640.00	96.00	10588.00	89.81	358.97	60R	10640.00	10665.00	25.00	10665.00	10736.00	71.00	30.00	0.06	1.87	
10736.00	95.00	10684.00	90.88	0.02	70R	10736.00	10751.00	15.00	10751.00	10831.00	80.00	25.00	0.04	1.11	
10831.00	190.00	10779.00	90.49	1.74	70R	10831.00	10846.00	15.00	10846.00	11021.00	175.00	15.00	-0.03	-0.41	
11021.00	191.00	10969.00	88.83	0.62	45R	11021.00	11051.00	30.00	11051.00	11212.00	161.00	15.00	-0.11	-0.87	
11212.00	115.00	11160.00	87.60	357.94	45R	11212.00	11252.00	40.00	11252.00	11327.00	75.00	30.00	-0.04	-0.64	
11327.00	169.00	11275.00	89.81	359.60	45R	11327.00	11357.00	30.00	11357.00	11496.00	139.00	40.00	0.06	1.92	
11496.00	95.00	11444.00	91.54	2.05	20R	11496.00	11514.00	18.00	11514.00	11591.00	77.00	30.00	0.06	1.02	
11591.00	284.00	11539.00	91.23	0.90	30R	11591.00	11615.00	24.00	11615.00	11875.00	260.00	18.00	-0.02	-0.33	
11875.00	95.00	11823.00	92.90	2.06	155 L	11875.00	11883.00	8.00	11883.00	11970.00	87.00	24.00	0.07	0.59	
11970.00	95.00	11918.00	91.54	1.49	LS	11970.00	11975.00	5.00	11975.00	12065.00	90.00	8.00	-0.17	-1.43	
12065.00	95.00	12013.00	87.53	358.77	30 R	12065.00	12085.00	20.00	12085.00	12160.00	75.00	5.00	-0.80	-4.22	
12160.00	64.00	12108.00	86.97	358.75	20 R	12160.00	12195.00	35.00	12195.00	12224.00	29.00	20.00	-0.03	-0.59	
12224.00	126.00	12172.00	88.03	358.54	20 R	12224.00	12244.00	20.00	12244.00	12350.00	106.00	12.00	0.09	1.66	
12350.00	95.00	12298.00	90.68	358.48	90R	12350.00	12365.00	15.00	12365.00	12445.00	80.00	43.00	0.06	2.10	
12445.00	94.00	12393.00	91.06	358.26	90R	12445.00	12475.00	30.00	12475.00	12539.00	64.00	15.00	0.03	0.40	



(Distances are shown in feet.)

Slide Sheet Report

BHA 5 - 2012/07/10 TO 2012/07/16

Drilling Services

v4.2.2674

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
12539.00	95.00	12487.00	90.25	359.28	80R	12539.00	12569.00	30.00	12569.00	12634.00	65.00	30.00	-0.03	-0.86	
12634.00	95.00	12582.00	90.19	358.03	90 R	12634.00	12684.00	50.00	12684.00	12729.00	45.00	30.00	0.00	-0.06	
12729.00	95.00	12677.00	91.85	358.23	115 R	12729.00	12779.00	50.00	12779.00	12824.00	45.00	43.00	0.04	1.75	
12824.00	190.00	12772.00	92.65	2.83	100 R	12824.00	12829.00	5.00	12829.00	13014.00	185.00	50.00	0.02	0.84	
13014.00	97.00	12962.00	91.11	6.21	110 L	13014.00	13032.00	18.00	13032.00	13111.00	79.00	12.00	-0.13	-0.81	
13111.00	61.00	13059.00	89.51	5.49	90L	13111.00	13143.00	32.00	13143.00	13172.00	29.00	18.00	-0.09	-1.65	
13172.00	63.00	13120.00	88.58	4.14	70L	13172.00	13192.00	20.00	13192.00	13235.00	43.00	9.00	-0.10	-1.52	
13235.00	95.00	13183.00	89.08	1.11	60L	13235.00	13247.00	12.00	13247.00	13330.00	83.00	34.00	0.01	0.79	
13330.00	358.00	13278.00	89.09	359.67	80 L	13330.00	13360.00	30.00	13360.00	13688.00	328.00	21.00	0.00	0.01	
13688.00	192.00	13636.00	89.82	358.76	120 L	13688.00	13718.00	30.00	13718.00	13880.00	162.00	30.00	0.02	0.20	
13880.00	120.00	13828.00	86.36	357.25	10 L	13880.00	13910.00	30.00	13910.00	14000.00	90.00	30.00	-0.12	-1.80	
14000.00	281.00	13948.00	88.52	355.24	60 R	14000.00	14010.00	10.00	14010.00	14281.00	271.00	30.00	0.07	1.80	

Totals:	821.00 ft	4239.00 ft
Percentages:	16.2%	83.8%
Time:	44.75 hrs	24.08 hrs
Percentages:	65.0%	35.0%



MOTOR REPORTS

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section, Motor #675-4013

FILE #: 4026335 WELL NAME: Camp 24C-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: HEL LWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Stephen Schear, Brian Trani
 MWD Supervisor: Jett Hunter, Jon Leger
 Company Man: Pat Cain, James Johnson

BHA SURVEY TYPE: Positive Pulse MWD HOLE SIZE: 8.75 in

GENERAL INFORMATION:			MOTOR INFORMATION:		
BHA #:	1	START DEPTH:	792.00 ft	MANFCT:	Weatherford
DATE IN:	2012/07/02	END DEPTH:	6716.00 ft	SERIAL #:	675-4013
DATE OUT:	2012/07/04	HOLE MADE:	5924.00 ft	MODEL:	QLE7850
ANGLE IN:	0.14 °	AVG ROP:	178.17 ft/hr	LOBE:	7/8
ANGLE OUT:	0.20 °			SETTING:	1.50 °
ORIENTING HRS:	7.50	ROTATING HRS:	25.75	BIT TO BEND:	6.29 ft
				KICKPAD:	No
				STABILIZER:	No

DRILLING INFORMATION:		
BIT TYPE:	VM513	IADC BIT GRADE: 1 / 2 / BT / N / X / I / CT / BHA
BIT PRESS DROP:	0.00 psi	TOTAL FLOW RATE: 569.66 gal/min
MTR PRESS DROP:	0.00 psi	NOZZLES: 0.863 in ² TFA
		PUMP PRESS: (OFF) 2000.00 psi (ON) 3200.00 psi

MUD INFORMATION:		
MUD TYPE:	Water	LIQUID BASE: Water (All units are imperial.)
DENSITY:	9 lb/gal	VISCOSITY: 27 sec/qt
SAND:	0.100	WATER LOSS: 30.00 cc/30min
SOLIDS:	1.200	PLASTIC VISC: 1.0 cP
OIL:	0.000	YIELD POINT: 4.0 lb/100 ft ²
TEMP:	110 °F	pH: 8.6
		LIQUID RATE: 0.00 gal/min
		GAS TYPE:
		GAS RATE: 0.00 cu ft/min

TIME INFORMATION:	
CIRCULATING HOURS:	8.25
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	33.25
MOTOR HOURS THIS RUN:	41.50
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	41.50
TOTAL BRT HOURS:	41.50

MOTOR EVALUATION COMMENTS:
 WFT Hyperline 7/8 5.0 Motor SN (675-4013)
 Motor Ran as expected this motor has a total of 39 hrs on it and a total drill hrs of 33.5 this motor was ran to the max for gpm & Rpm
 Along with diff. and weight. motor didn't have any problems.

REASON FOR BHA CHANGE:
 Change motor and bit for curve.

COMMENTS FROM LAST DAY RAN:
 Drill f/ 4313 to 6716'.

TD Build & Hold Section, POOH to P/U Curve Assembly.



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Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section, Motor #675-4013

Drilling has been good and sliding to, other than when we started drilling into sussex right around 4400 the sliding slowed down do to the formation being so sticky.

This motor is being ran to the max per Company mans request. It was explained to the the company man that running this hard on our equipment is not recommended. Parameters being ran are as fallowed.

GPM = 600 gpm

Diff. Pressure = 1200 psi

WOB = 45 klb

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Drilling Services
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BHA 2 - Curve Section, Motor #675-0994

FILE #: 4026335 WELL NAME: Camp 24C-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: HEL LWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca, Brian Trani, Stephen Schear
 MWD Supervisor: Jett Hunter, Jon Leger
 Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: Positive Pulse MWD HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 2 START DEPTH: 6716.00 ft
 DATE IN: 2012/07/05 END DEPTH: 7749.00 ft
 DATE OUT: 2012/07/06 HOLE MADE: 1033.00 ft
 ANGLE IN: 1.25 ° AVG ROP: 59.61 ft/hr
 ANGLE OUT: 83.35 °
 ORIENTING HRS: 14.58 ROTATING HRS: 2.75

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 675-0994
 MODEL: QLE7850
 LOBE: 7/8 BIT TO BEND: 6.32 ft
 SETTING: 2.25 ° KICKPAD: 8.10
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FXd54 IADC BIT GRADE: 1 / 2 / CT / G / X / I / FC / TD
 BIT PRESS DROP: 0.00 psi TOTAL FLOW RATE: 598.00 gal/min PUMP PRESS: (OFF) 3100.00 psi
 MTR PRESS DROP: 0.00 psi NOZZLES: 1.011 in² TFA (ON) 3400.00 psi

MUD INFORMATION:

MUD TYPE: Gelchem LIQUID BASE: Water (All units are imperial.)
 DENSITY: 10 lb/gal VISCOSITY: 39 sec/qt
 SAND: 0.010 WATER LOSS: 8.00 cc/30min LIQUID RATE: 0.00 gal/min
 SOLIDS: 7.100 PLASTIC VISC: 7.0 cP GAS TYPE:
 OIL: 2.000 YIELD POINT: 5.0 lb/100 ft² GAS RATE: 0.00 cu ft/min
 TEMP: 177 °F pH: 9.0

TIME INFORMATION:

CIRCULATING HOURS: 6.75
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 17.33
 MOTOR HOURS THIS RUN: 24.08
 PREVIOUS HOURS: 0.00
 TOTAL MOTOR HOURS: 24.08
 TOTAL BRT HOURS: 24.08

MOTOR EVALUATION COMMENTS:

Weatherford Motor 7850 2.25 Fixed housing SN (675-0994) Had a total of 16.75 Hours on it. 4.17 hours were circulating and 12.58 hours of actual drilling time. This motor performed as expected and looked good when laid down with a 1/4" of squat in it. Also this motor was ran with max gpm at 600 gpm. per Co. Mans request. We are sending this motor back with the Security bit on it. We were unable to break the bit due to pinched bit breaker. We are doing this per Co. Mans request.

REASON FOR BHA CHANGE:

TD Curve.

COMMENTS FROM LAST DAY RAN:

Drill F/ 7526' to 7749' T.D.

**BHA 2 - Curve Section, Motor #675-0994**

Circ & Condition Hole

POOH to Run Casing.

Target TVD was changed twice through this curve. We landed 1' below last suggested target TVD of 7324'

All formations drilled as expected. We did not get the build rates we expected to get although they were enough to land this curve according to plan. Also we fought the direction the entire curve. This section of the hole was pulling us hard to the east. We slid 90L as well as HS to build & maintain hole direction.

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Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 3 - Lateral 1 Section, Motor #475-1287

FILE #: 4026335

WELL NAME: Camp 24C-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear

MWD Supervisor: Jett Hunter, Jon Leger

Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 3
DATE IN: 2012/07/07
DATE OUT: 2012/07/09
ANGLE IN: 0.00 °
ANGLE OUT: 90.37 °
ORIENTING HRS: 4.50
START DEPTH: 7749.00 ft
END DEPTH: 9156.00 ft
HOLE MADE: 1407.00 ft
AVG ROP: 85.69 ft/hr
ROTATING HRS: 11.92

MOTOR INFORMATION:

MANFCT: Weatherford
SERIAL #: 475-1287
MODEL: ME6770
LOBE: 6/7
SETTING: 1.50 °
BIT TO BEND: 6.13 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FXD54
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 1 / 1 / CT / A / X / I / WT / DTF
TOTAL FLOW RATE: 284.83 gal/min
NOZZLES: 0.61 in² TFA
PUMP PRESS: (OFF) 3400.00 psi
(ON) 4400.00 psi

MUD INFORMATION:

MUD TYPE: Polymer
DENSITY: 10 lb/gal
SAND: 0.500
SOLIDS: 7.900
OIL: 0.000
TEMP: 125 °F
LIQUID BASE: Water
VISCOSITY: 38 sec/qt
WATER LOSS: 6.20 cc/30min
PLASTIC VISC: 38.0 cP
YIELD POINT: 13.0 lb/100 ft²
pH: 10.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 8.25
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 16.42
MOTOR HOURS THIS RUN: 24.67
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 24.67
TOTAL BRT HOURS: 24.67

MOTOR EVALUATION COMMENTS:

Weatherford Motor 6760 1.5 adjustable SN (475-1287) had a total of 24.67 hrs on it. 8.25 hrs were circulating and 16.42 hrs actual drilling time. Motor performed as expected without any excessive stalling except for some minor stalls when sliding through a known faulted region at approx. 9,000' MD. Lateral and axial bearing play within normal specs. However rubber was found a bit and it was decided to run a new motor on BHA#4.

REASON FOR BHA CHANGE:

MWD failure.

COMMENTS FROM LAST DAY RAN:

Trip for MWD failure. Changed out flow diverter and interconnect on MWD once on surface. Changed out mud motor. RIH, MWD functioned properly first 62 ft, then quit sending info although it kept pulsing. Circulated sweep just before midnight before TOOH for



failure.

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Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 4 - Lateral 1 Section, Motor #475-41087

FILE #: 4026335 WELL NAME: Camp 24C-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: HEL LWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Stephen Schear
 MWD Supervisor: Jett Hunter, Jon Leger
 Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 4 START DEPTH: 9156.00 ft
 DATE IN: 2012/07/09 END DEPTH: 9221.00 ft
 DATE OUT: 2012/07/10 HOLE MADE: 65.00 ft
 ANGLE IN: 0.00 ° AVG ROP: 185.71 ft/hr
 ANGLE OUT: 0.00 °
 ORIENTING HRS: 0.00 ROTATING HRS: 0.35

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 475-41087
 MODEL: ME6760
 LOBE: 6/7 BIT TO BEND: 6.14 ft
 SETTING: 1.50 ° KICKPAD: No
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FXD54 IADC BIT GRADE: 1 / 2 / CT / A / X / I / WT / DTF
 BIT PRESS DROP: 0.00 psi TOTAL FLOW RATE: 292.13 gal/min PUMP PRESS: (OFF) 3400.00 psi
 MTR PRESS DROP: 0.00 psi NOZZLES: 0.61 in² TFA (ON) 4000.00 psi

MUD INFORMATION:

MUD TYPE: Polymer LIQUID BASE: Water (All units are imperial.)
 DENSITY: 10 lb/gal VISCOSITY: 36 sec/qt
 SAND: 0.500 WATER LOSS: 5.80 cc/30min LIQUID RATE: 0.00 gal/min
 SOLIDS: 8.000 PLASTIC VISC: 12.0 cP GAS TYPE:
 OIL: 0.000 YIELD POINT: 5.0 lb/100 ft² GAS RATE: 0.00 cu ft/min
 TEMP: 120 °F pH: 9.0

TIME INFORMATION:

CIRCULATING HOURS: 3.15
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 0.35
 MOTOR HOURS THIS RUN: 3.50
 PREVIOUS HOURS: 0.00
 TOTAL MOTOR HOURS: 3.50
 TOTAL BRT HOURS: 3.50

MOTOR EVALUATION COMMENTS:

Motor 475-41087 had 3.15 Circulating hrs and .35 drilling hrs. Motor performed as expected and looked good when pulled out of hole. This motor will be used for BHA#5.

REASON FOR BHA CHANGE:

LWD Failure

COMMENTS FROM LAST DAY RAN:

Pulled BHA for MWD. Connection flooded on logging tools. No issues with MWD once back on bottom.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 5 - Lateral 1 Section, Motor #475-41087

FILE #: 4026335 WELL NAME: Camp 24C-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: HEL LWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Stephen Schear, Josh Monroe
 MWD Supervisor: Jett Hunter, Jon Leger
 Company Man: Doug Barone, Doug Blair

BHA SURVEY TYPE: HEL LWD HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 5 START DEPTH: 9221.00 ft
 DATE IN: 2012/07/10 END DEPTH: 14281.00 ft
 DATE OUT: 2012/07/16 HOLE MADE: 5060.00 ft
 ANGLE IN: 91.06 ° AVG ROP: 72.81 ft/hr
 ANGLE OUT: 88.52 °
 ORIENTING HRS: 44.75 ROTATING HRS: 24.08

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 475-41087
 MODEL: ME6760
 LOBE: 6/7 BIT TO BEND: 6.14 ft
 SETTING: 1.50 ° KICKPAD: No
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FXD54 IADC BIT GRADE: 1 / 3 / BT / N / ? / I / BT / TD
 BIT PRESS DROP: 0.00 psi TOTAL FLOW RATE: 292.13 gal/min PUMP PRESS: (OFF) 3800.00 psi
 MTR PRESS DROP: 0.00 psi NOZZLES: 0.61 in² TFA (ON) 4300.00 psi

MUD INFORMATION:

MUD TYPE: Water LIQUID BASE: Water (All units are imperial.)
 DENSITY: 10 lb/gal VISCOSITY: 39 sec/qt
 SAND: 0.700 WATER LOSS: 5.60 cc/30min LIQUID RATE: 0.00 gal/min
 SOLIDS: 9.300 PLASTIC VISC: 14.0 cP GAS TYPE:
 OIL: 0.000 YIELD POINT: 12.0 lb/100 ft² GAS RATE: 0.00 cu ft/min
 TEMP: 132 °F pH: 9.0

TIME INFORMATION:

CIRCULATING HOURS: 11.50
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 68.83
 MOTOR HOURS THIS RUN: 80.33
 PREVIOUS HOURS: 3.50
 TOTAL MOTOR HOURS: 83.83
 TOTAL BRT HOURS: 81.50

MOTOR EVALUATION COMMENTS:

This motor ran good it has 68 drill hrs on it and a total of 81 hrs it did havr a 1/2 inch of squat thrust bearings are probably shot bit houseing had the same amount of play in it as it did when going in the hole new about 1/8 inch of play.

REASON FOR BHA CHANGE:

Hole was T.D.

COMMENTS FROM LAST DAY RAN:

TOOH Lay Down Tools. Reamer run before running in with Packers Plus.